Pâmela Cristina Mastellaro Delvas Zanni

AVALIAÇÃO DE GENES RELACIONADOS A MOTILIDADE CELULAR EM MULHERES COM ENDOMETRIOSE PROFUNDA

Tese apresentada ao Departamento de Ginecologia da Universidade Federal de São Paulo – Escola Paulista de Medicina para obtenção do título de Doutor em Ciências

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Coorientadora: Dra Adriana Luckow Invitti Nogueira

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pelo verdadeiro sentido da vida. Amo você.

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"Sinto muito, Me perdoa, Eu te amo, Sou grata."
(Ho'oponopono)

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Lista de siglas e abreviaturas

Apaf-1	Protease pró-apoptótica 1 (*Apoptotic protease activating factor 1*)
CAV1	Caveolina 1 (*Caveolin 1*)
CELULAS NK	Células exterminadoras naturais (*natural killers cells*)
DNA	Ácido Desoxirribonucleico (*deoxyribonucleic acid*)
ECM	Matriz extra-celular (*extracelular matrix*)
EGFR	Receptor do fator de crescimento epidérmico (*epidermal growth fator receptor*)
EGF	Fator de crescimento epidérmico (*epidermal growth fator*)
ER	Retículo endoplasmático (*endoplasmic reticulum*)
ICAM-1	Molécula de adesão intercelular-1 (*Intercellular Adhesion Molecule 1*)
IL-1	Interleucina 1 (*Interleukin 1*)
IL-6	Interleucina 6 (*Interleukin 6*)
IL-8	Interleucina 8 (*Interleukin 8*)
LFA1	Antígeno funcional linfocitário 1 (*Lymphocyte function-associated antigen 1*)
MMP	Metaloproteinase (*metalloproteinase*)
MTOC	Centro organizador de microtúbulo (*microtubule-organizing center*)
PLD1	Fosfolipase D1 (*Phospholipase D1*)
RANTES	Regulador de ativação de Células T expressado e secretado (*Regulated on Activation, Normal T Cell Expressed and Secreted*)
REF	Resposta a infecções e lesões
RHOB	Gene da família homóloga a Ras – membro B (*Ras homolog gene family, member B*)
RT-PCR	Reação em Cadeia da Polimerase em Tempo Real (*Real Time Polymerase Chain Reaction*)
TGF-β	Fator de crescimento transformador β (*transforming growth fator β*)
TNF	Fator de necrose tumoral (*tumoral necrosis factor*)
TNFR	Receptor do fator de necrose tumoral (*tumoral necrosis factor receptor*)
UPR	Resposta à proteína desenovelada (*unfolded protein response*)
VEGF	Fator de crescimento do endotélio vascular (*vascular endothelial growth factor*)

Resumo

A endometriose é uma doença inflamatória comum, benigna, dependente de estrogênio e trata-se de um transtorno ginecológico crônico. Atinge aproximadamente 10% das mulheres em idade reprodutiva e 35% a 50% destas mulheres apresentam dor pélvica e infertilidade. A origem da endometriose tem intima ligação com a capacidade do tecido endometrial de se desenvolver ectopicamente. No entanto, não há consenso no que diz respeito a explicação para tal capacidade. A teoria da menstruação retrógrada é a mais antiga e aceita. Porém, ela não explica como algumas mulheres desenvolvem endometriose e outras não, visto que praticamente todas as mulheres apresentam algum grau de fluxo retrógrado. A migração celular desempenha papel central em ampla variedade de fenômenos biológicos e contribui para a progressão da maioria das doenças humanas. No organismo adulto, a migração permanece notável, sendo essencial para uma resposta imune adequada, reparo de feridas e homeostase tecidual. Entretanto, em várias doenças apresenta-se de forma anormal. No entanto, pouco se sabe sobre o papel dos mecanismos de motilidade celular para o estabelecimento e progressão dos implantes de endometriose. Diante disso, o estudo teve como objetivo avaliar a expressão de genes relacionados aos processos de motilidade celular em células primárias derivadas do endométrio de mulheres com endometriose profunda e mulheres sem a doença. As células do endométrio provenientes de mulheres com endometriose profunda apresentaram o gene CAV1 hiporregulado, gene relacionado à supressão de tumor e os genes RHOB e o PLD1 hiper-regulados, sendo esses genes envolvidos na migração e progressão celular. Nesse sentido, sugere-se que esses genes podem desempenhar um importante papel no estabelecimento e progressão da endometriose.

Abstract

Endometriosis is a common, benign, estrogen-dependent inflammatory disease and is a chronic gynecological disorder. The pathology affects approximately 10% of women in reproductive age and 35-50% of women who presents pelvic pain and infertility. The histological origin of endometriosis aims to explain the ability of endometrial tissue to develop ectopically. However, no consensus has been reached with regard to a single theory is able to explaining such capability. The retrograde menstruation is the oldest and accepted theory, but it does not explain how some women develop endometriosis and others do not, since all women have some degree of retrograde flow. Cell migration plays a central role in a wide variety of biological phenomena and contributes to the progression of most human diseases. In the adult organism the migration remains remarkable being essential for adequate immune response, wound repair and tissue homeostasis, nonetheless, in several pathologies it appears abnormally. However, little is known on the role of cellular motility mechanisms for the establishment and progression of endometriosis implants. The aim of this study was to evaluate, using RT-PCR, the expression of genes related to the cellular motility processes in primary cells derived from the endometrium of women with deep infiltrating endometriosis and women without the disease. For this, endometrial samples were obtained from volunteers of Pain Unit Pelvic and Endometriosis Department of Gynecology, Paulista Medical School of the Federal University of São Paulo (EPM-UNIFESP). Women between 29 and 35 years were recruited. For endometriosis group, women undergoing for surgery of IV stage endometriosis and the control group were composed of women submitted to laparoscopy for tubal ligation. The samples were cultured and stored for the RT-PCR realization in order to analyze the possible genes involved in the cellular motility process in primary cells derived from the endometrium of women with deep endometriosis. It was possible to observe that endometrial cells from women with deep endometriosis showed the gene CAV1 downregulated, a gene related to a tumor suppression; RHOB and PLD1 were upregulated, which are involved in cell migration and progression. In this sense, it is suggested that these genes may play an important role in the establishment and progression of endometriosis.

1. INTRODUÇÃO

1.1 Endometriose

A endometriose, enfermidade descrita pela primeira vez pelo médico alemão, Daniel Christianus Schrön[1], é uma doença inflamatória comum, benigna, dependente de estrogênio, sendo um transtorno ginecológico crônico que ocorre quando o tecido endometrial adere e exibe padrões de crescimento cíclico fora do útero, resultando frequentemente em dor pélvica severa e infertilidade (Bulun, 2009; Giudice, 2010). A definição da endometriose é histológica e requer a identificação de tecido glandular e estroma endometrial fora da cavidade uterina. Estas lesões ectópicas estão comumente localizadas nos órgãos pélvicos e no peritônio (Burney, Giudice, 2012). Ocasionalmente, lesões ectópicas endometriais podem ser encontradas em outras partes do corpo, como rim, bexiga, pulmões e até mesmo no cérebro (Pritts, 2003; Giudice, 2005).

[1] Schrön DC. Disputatio inauguralis medica de ulceribus uteri. [tese] Jena (TH): Friedrich-Schiller-University of Jena. 1690.

O endométrio humano é o único tecido adulto que sofre ciclos de descamação e crescimento aproximadamente 400 vezes durante a vida reprodutiva da mulher. Esta afecção atinge aproximadamente 10% das mulheres em idade reprodutiva e 35% a 50% das mulheres que tem endometriose apresentam dor pélvica e infertilidade (Houston, 1984; Eskenazi, 1997; Giudice, 2010). A doença pode ser debilitante e manifesta sintomas como dismenorreia, dispareunia e dor pélvica crônica (Carneiro et al., 2010).

Clinicamente, a endometriose é dividida em três tipos: superficial, profunda e endometriomas. Na endometriose superficial, os focos endometrióticos (geralmente são pequenos e identificáveis apenas na laparoscopia) estão localizados na superfície peritoneal ou a menos de 5 mm dela. Na endometriose profunda (ou de infiltração sólida), os implantes endometriais estão localizados a pelo menos 5 mm da superfície peritoneal e podem invadir o espaço retroperitoneal ou a parede dos órgãos pélvicos adjacentes. Pacientes sintomáticos, em geral, tem endometriose profunda, que é considerada a principal causa da dor pélvica crônica em mulheres em idade reprodutiva. Finalmente, os endometriomas, o terceiro tipo de endometriose, apresentam-se como estruturas císticas com conteúdo hemorrágico localizado nos anexos. As manifestações clínicas comuns incluem dor pélvica (dor pélvica cíclica, dismenorreia e dispareunia) e infertilidade. Sintomas menos frequentes são observados, tais como: constipação dolorosa, diarreia durante o período menstrual, hemorragia retal e hematúria. Entretanto, curiosamente, vários pacientes podem ser assintomáticos (Bourgioti, 2017).

A endometriose tem custos anuais estimados de US$ 12.419 por mulher, compreendendo um terço dos custos com cuidados de saúde, sendo dois terços atribuídos à perda de produtividade (Rogers et al., 2013), como mostrado na figura 1. O custo econômico associado à endometriose tratada nos centros de referência é alto e é semelhante a outras doenças crônicas, como diabetes e doença de Crohn. A doença também representa uma das principais causas de histerectomia e hospitalização nos Estados Unidos, com custos sociais anuais estimados em US$ 69,4 bilhões em 2009 (Simoens et al., 2012). Por razões mencionadas acima, apesar de ser a base causal para mais de 30% dos novos encaminhamentos para clínicas de ginecologia, o manejo da endometriose continua sendo difícil (Sourial, 2014).

Atualmente, não existe tratamento curativo para a endometriose e o tratamento clínico dos sintomas, como a dor, é feito por meio de medidas médicas e / ou cirúrgicas. O manejo médico segue o princípio básico de reduzir a inflamação, suprimir os ciclos ovarianos e inibir o efeito do estrogênio. O tratamento cirúrgico remove apenas as lesões endometrióticas identificadas ou a excisão completa dos órgãos acometidos (Giudice, 2010).

Muito se discute sobre a capacidade do tecido endometrial de se desenvolver ectopicamente. No entanto, nenhum consenso foi alcançado, no que diz respeito a uma única teoria explicar tal capacidade. Sampson, em 1927, propôs que o fluxo retrógrado de fragmentos de tecido endometrial passa pelas trompas de falópio durante a menstruação e cai na cavidade abdominal, seguido pela implantação e desenvolvimento em superfícies. A hipótese de Sampson é apoiada pela localização das lesões na maioria das pacientes e pelo fato de que a doença é exclusiva de primatas e não ocorre em espécies que não menstruam (D'Hooghe, 2002).

Outra teoria, a metaplasia celômica, sustenta que a gênese das lesões endometrióticas dentro da cavidade peritoneal é resultado da diferenciação mesotelial em tecido semelhante ao endométrio (Ferguson et al., 1969). Finalmente, a teoria dos restos embrionários sugere que células primitivas de origem Mülleriana poderiam ser a causa das doenças (Russell, 1899).

No entanto, casos de focos ectópicos distantes (por exemplo, cérebro, pulmões etc.) não podem ser explicados por nenhuma das teorias postuladas (Sarma et al., 2004). Sampson, portanto, hipotetizou que a endometriose pode se formar em *sites* ectópicos, via disseminação linfática (Sampson, 1927). Outros estudos sugerem que as células da medula óssea e/ou células progenitoras da camada basal do endométrio contribuem para o desenvolvimento da doença (Du, 2007; Santamaria, 2012).

A teoria da menstruação retrógrada é a mais antiga e aceita, porém ela não explica como algumas mulheres desenvolvem endometriose e outras não, visto que praticamente todas as mulheres apresentam algum grau de fluxo retrógrado. Sabe-se que, embora a menstruação retrógrada explique o deslocamento físico de fragmentos endometriais para a cavidade peritoneal, são necessários passos adicionais para o desenvolvimento de implantes endometrióticos. O escape da depuração imune, adesão e invasão do epitélio, estabelecimento de neurovascularidades locais, o crescimento e a sobrevivência das células são necessários para o desenvolvimento da endometriose a partir da passagem retrógrada do endométrio (Burney, Giudice, 2012). Além disso, o desenvolvimento da doença pode ser influenciado por outros fatores, como a quantidade de células endometriais (Gargett, 2014) no fluido peritoneal, fatores imunológicos, incluindo atividade aumentada da resposta inflamatória no fluido peritoneal, comprometimento do reconhecimento imune e depuração das células ectópicas do endométrio, formação de autoanticorpos, fatores genéticos e ambientais (Abu-Asab et al., 2011; Kyama, 2011). As investigações envolvendo a fisiopatologia da endometriose revelaram várias características moleculares chave desta doença: predisposição genética, dependência de estrogênio, resistência à progesterona e inflamação (Burney, Giudice, 2012).

A capacidade de sobrevivência inata ou adquirida e a capacidade de implantação de células endometriais vêm sendo estudadas e comparadas entre mulheres com e sem endometriose, e coletivamente esses estudos revelam que existem diferenças marcantes na expressão gênica e de proteínas entre os grupos, o que pode predispor ao desenvolvimento da doença (Burney, Giudice, 2012).

Uma variedade de anomalias na estrutura, proliferação, componentes imunes, moléculas de adesão, enzimas e inibidores proteolíticos, produção e capacidade de resposta aos esteróides e citocinas, expressão gênica e produção de proteínas ocorrem no endométrio de mulheres com endometriose (Sharpe-TIMMS, 2006)

Diversos mecanismos celulares estão diretamente envolvidos na fisiopatologia da endometriose, são eles: expressão aberrante de moléculas pró e anti-inflamatórias criando um ambiente pró-inflamatório (Illie, Illie, 2013); diminuição da apoptose, aumentando a sobrevida das células oriundas do endométrio na cavidade peritoneal (Reis et al., 2013); expressão de moléculas relacionadas à invasão celular, que propiciam o estabelecimento de implantes endometriais (Burney, Giudice, 2012); e aumento da motilidade celular (Schwenke et al., 2013), que pode estar relacionado à invasibilidade e disseminação dos implantes endometriais. Cada um desses processos será descrito individualmente nos tópicos a seguir.

Figura 1 - Painel estatístico da Endometriose.
Fonte: Bulun (2009); Giudice (2010), Rogers et al. (2013).

1.2 Resposta inflamatória na endometriose

A regulação da resposta inflamatória é importante para a implantação efetiva do embrião e um reparo eficiente após a menstruação. Assim, os eventos endometriais importantes são caracterizados por influxo de leucócitos, modificação da matriz extracelular e aumento da permeabilidade vascular. Uma resposta inflamatória anormal pode levar a doença ginecológica (Maybin et al., 2011).

Em 1992, Meigs descreveu sobre a infiltração de "leucócitos endoteliais", os quais contribuíram para a compreensão da resposta inflamatória evocada pela endometriose, nos mecanismos e consequências do recrutamento e ativação de células imunes em focos ectópicos de tecido endometrial (Meigs, 1992; Reis, 2013).

Sabe-se que os mecanismos subjacentes ao início, progressão e manutenção da endometriose apresentam resposta inflamatória anormal e exacerbada, incluindo o aumento do volume do fluido peritoneal, que está estabelecido nos estágios iniciais da doença e sustentado por persistentes recrutamentos de células imunológicas para os focos endometrióticos (Reis, 2013).

O fluido peritoneal banha a cavidade peritoneal, na qual encontra-se a maioria das lesões endometriais, e pode ter efeito direto, não somente na habilidade do tecido se implantar, mas também em sobreviver, influenciando no grau de vascularização e na extensão da doença (McLaren, 2000).

Esta resposta inflamatória aguda incorpora os vasos locais, sistema imunológico e várias células somáticas, que compõem o tecido endometrial lesionado. As células imunes

presentes no tecido danificado, incluindo macrófagos, células dendríticas e mastócitos contribuem significativamente para o desenvolvimento de inflamação aguda, bem como o início do reparo tecidual (Herington et al., 2011).

A endometriose pode envolver alterações na função da imunidade mediada por células, pois na cavidade peritoneal das mulheres que desenvolvem a doença, as células imunitárias residentes e recrutadas estão oprimidas pela quantidade de tecido endometrial acumulado e perdem sua capacidade de detectar e destruir efetivamente o tecido endotelial autólogo, permitindo que as células endometriais viáveis se anexem e cresçam ectopicamente. Além disso, essas células imunes permanecem capazes de produzir citocinas/quimiocinas inflamatórias, que favorecem a sobrevivência e o crescimento do tecido endometrial ectópico, tanto pela inibição de processos apoptóticos normais, como pela promoção da angiogênese localizada, contribuindo ainda mais para a progressão da doença (Cassatella, 1995; Mantovani et al., 2008).

As células mononucleares periféricas ativadas, assim como as células endometriais *in situ*, secretam inúmeras citocinas e fatores de crescimento, que são proteínas ou glicoproteínas de baixo peso molecular. Usualmente, essas citocinas inflamatórias e os fatores de crescimento são secretados e recrutam inúmeros tipos de células de defesa para a cavidade peritoneal (D'Hooghe,1996).

Os macrófagos são as primeiras células imunes residentes da cavidade peritoneal, que atuam para eliminar detritos celulares, células apoptóticas, incluindo os tecidos endometriais acumulados pela menstruação retrógrada. A atividade dessas células ocorre por meio de secreção e ativação das metaloproteinases (MMPs) e expressão do receptor CD36. Coletivamente, MMPs e CD36 promovem a degradação e a depuração de detritos celulares. Alguns estudos mostram que, em casos de endometriose, apesar da quantidade aumentada de macrófagos no fluido peritoneal, níveis de expressão e atividade de MMP estão diminuídas, assim como o receptor CD36, diminuindo a capacidade fagocitária dos macrófagos e contribuindo para o desenvolvimento da doença (Osteen et al., 2003).

Outro mecanismo que pode permitir que os fragmentos endometriais evitem a resposta imunológica, envolve a molécula de adesão intercelular-1 associada (ICAM-1) à molécula de linfócitos (LFA1). Em situação livre da doença, os linfócitos expressam LFA1 que aderem a ICAM-1, expresso pelas células endometriais extraviadas e as apresentam como alvos para as células *natural killer* (NK). Porém, em lesões endometriais, a forma solúvel de ICAM-1 é liberada e compete com ICAM-1, diminuindo a disponibilidade de LFA1, tornando os linfócitos incapazes de fazer a apresentação (Vigano,1998).

Além disso, alguns estudos sugerem que as células NK e os Linfócitos T de mulheres com endometriose apresentam toxicidade reduzida (Hill et al., 1988; Ota, 1993). Outra importante célula de defesa são os neutrófilos, que representam a primeira linha de defesa da resposta imune inata. Na endometriose o seu número é aumentado, e, apesar de não estar bem elucidado, está envolvida na organização tecidual e angiogênese, contribuindo para a patogênese da doença (Tariverdian, 2009).

As células imunes produzem inúmeras citocinas e quimiocinas, que são mediadores importantes da comunicação intercelular nos sistemas imune e endócrino, atuando numa

variedade de receptores específicos de células-alvo, podendo exercer proliferações, diferenciações, efeitos citostáticos, quimioatraentes ou angiogênicos. Essas múltiplas propriedades modulam a ação das citocinas, não apenas durante a ligação inicial e a invasão das células endometriais ao revestimento mesotelial da superfície peritoneal, mas também no estabelecimento do suprimento vascular que promove a progressão da doença (Reis, 2013).

Algumas citocinas exercem papel importante na imunopatogênese da endometriose, como Interleucina 1 (IL-1), Interleucina 6 (IL-6), Interleucina 8 (IL-8), Regulador de ativação de Células T expressado e secretado (Rantes), Fator de necrose tumoral (TNF) alfa e beta e Fator de crescimento do endotélio vascular (VEGF) (Herington et al., 2011). O fluido peritoneal das mulheres com endometriose pode conter níveis elevados de numerosas citocinas, incluindo os potentes agentes pró-inflamatórios IL-1, IL-8 e TNF-a. Essas citocinas, produzidas por macrófagos e neutrófilos ativados, contribuem para um microambiente peritoneal com inflamação, o que promove o estabelecimento da doença. Além disso, estudos mostram que os níveis de VEGF correlacionam-se com o estágio da doença e esse fator de crescimento parece desempenhar papel proeminente na vascularização do tecido endometrial (Gonçalves, 2018). Dessa forma, a natureza excessiva e persistente da inflamação associada às células endometriais viáveis, que entram na cavidade peritoneal pela menstruação retrógrada, interage e torna o sistema imunológico inato cada vez mais disfuncional à medida que a doença avança. Esses episódios tornam-se um ciclo vicioso, que contribui não apenas para o crescimento do endométrio ectópico, mas também para as demais comorbidades associadas com a endometriose (Vinatier et al., 1996; Lebovic et al., 2001; Reis, 2013).

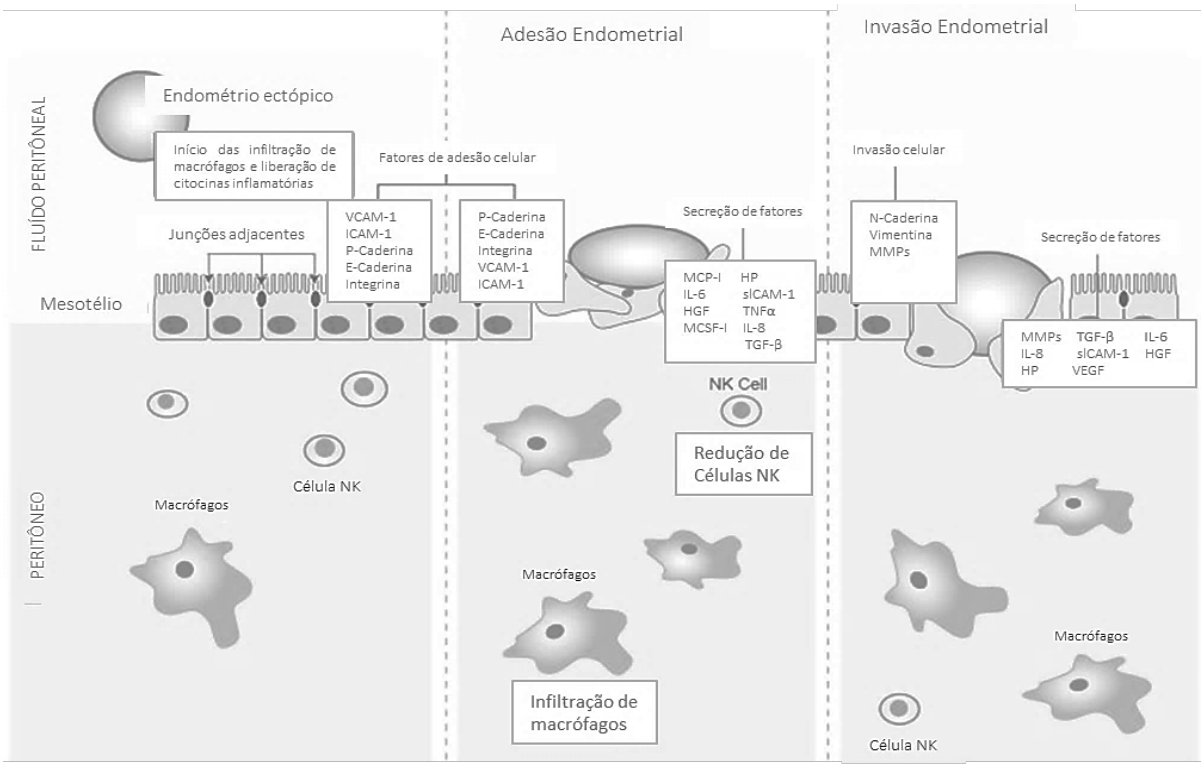

Figura 2 - Diagrama dos fatores que contribuem para a adesão e invasão do endométrio (tecido uterino), em áreas como o peritônio (revestimento da cavidade abdominal).
Fonte: Adaptado de Medical Gallery of Blausen Medical (2014).

1.3 Estabelecimento do implante endometrial

O mesotélio intacto pode atuar como uma barreira protetora contra a implantação do tecido endometrial regurgitado. O efluente menstrual tem efeito prejudicial no mesotélio e pode induzir autologamente a lesão local que facilita a implantação de células endometriais (Poppe, 2002). Alguns estudos *in vitro* demonstraram que os fragmentos endometriais aderem ao peritônio somente em locais onde a membrana basal ou a matriz extracelular foi exposta a algum dano, sugerindo que uma condição hereditária ou adquirida do peritônio pode contribuir para adesão e invasão transmesotelial e, posteriormente, na implantação das células endometriais provenientes do refluxo (Burney, Giudice, 2012).

Alterações genéticas das células do endométrio também influenciam no estabelecimento de implantes endometrióticos. O endométrio representa um cenário celular extraordinário, vulnerável a erros de recombinação genética e também influenciado por fatores epigenéticos e estresse oxidativo (Guo et al., 2004). O endométrio de mulheres com endometriose compartilha certas alterações como superexpressão do gene antiapoptótico BCL-2. Além da diminuição da apoptose, a proliferação aumentada pode conferir uma vantagem de sobrevivência seletiva ao endométrio das mulheres predispostas à endometriose (Burney, Giudice, 2012). Assim, alguns estudos sugerem que o endométrio dessas mulheres tem aumento da proliferação e da habilidade de se implantar e sobreviver em locais ectópicos (Healy et al., 1998).

A capacidade invasiva e ainda a neovascularização são fenômenos importantes na endometriose que, apesar de ser uma doença benigna, alguns desses eventos se assemelham com o de neoplasias malignas. A neovascularização é muito importante na implantação de células endometriais em sítios ectópicos. Assim sendo, fatores de crescimento e angiogênicos podem estar relacionados a patogênese e progressão da doença, como o VEGF, o qual induz proliferação celular endotelial, migração, diferenciação e formação de capilares e receptor do fator de crescimento epidérmico (EGFR). Além disso, o EGFR é uma glicoproteína transmembrana importante no controle de crescimento, diferenciação e motilidade celular (Burney, Giudice, 2012).

A angiogênese ocorre durante o crescimento fetal e seu desenvolvimento, em adultos, está limitada a poucos mecanismos como ocorre no endométrio durante o ciclo menstrual; no ovário, durante a formação do corpo lúteo; e em estados patológicos, como retinopatia diabética, tumores e endometriose (Krikum, 2012). Esse processo requer novas células endoteliais e o recrutamento de peritócitos para a formação de capilares ou células musculares lisas para formar vasos grandes. Em sequência, ocorre a degradação da matriz extracelular (ECM), proliferação celular e migração, organização das células endoteliais em redes capilares e formação do lúmen (Distler et al., 2002.)

Os implantes endometrióticos requerem neovascularização para sobreviver, crescer e invadir sítios ectópicos. As lesões endometrióticas são altamente vascularizadas, comprovando que a formação de vasos sanguíneos desempenha papel fundamental para o crescimento dessas células (Jiang, Wu, 2012).

1.4 Apoptose na endometriose

Apoptose ou morte celular programada é um processo fisiológico, que elimina as células indesejadas sem induzir resposta imune ou processo inflamatório. Ocorre de modo específico, com padrão característico de mudanças morfológicas, bioquímicas e moleculares, tais como, condensação de cromatina nuclear, formação de bolhas citoplasmáticas e degradação de DNA internucleossomal (Kerr, 1994).

A apoptose pode resultar da ativação de três vias principais, que eventualmente ativam a caspase-3 como o efetor da apoptose (Taniguchi, 2011). A primeira via começa com a ligação dos receptores com os ligantes cognatos de morte, recrutam a caspase-8 que irá ativar a caspase-3, executando a morte por apoptose. Fas e o receptor do fator de necrose tumoral (TNFR) pertencem à superfamília dos receptores fatores de necrose tumoral. Todos os membros da família TNFR possuem um subdomínio extracelular rico em cisteína, chamada "domínio de morte", o qual permite que eles reconheçam seus ligantes e, consequentemente, ocorra a ativação dos receptores de morte celular específicos (Tartaglia, 1993; Fulda, Debatin, 2006). Após a ativação do receptor pela ligação dos ligantes cognatos de morte (por exemplo, FasL e TNFalpha), o domínio da morte interage com a proteína adaptadora (por exemplo, FADD), levando à formação de complexo de sinalização indutor da morte e iniciando o processo de execução de apoptose ativando a caspase-8 (caspase iniciadora), que se cliva e ativa as caspases efetoras, caspase-3, 6 e/ou 7, executando a morte por apoptose (O'Reilly, Strasser, 1999; Budihardjo et al., 1999).

A segunda via envolve a mitocôndria, essa organela integra os estímulos de morte celular, induzindo a permeabilização mitocondrial e a liberação de moléculas pró-apoptóticas nela presentes. A ativação da Caspase-9 começa com o desacoplamento da cadeia respiratória e consequente liberação mitocondrial do citocromo C, em resposta a estímulos (Gupta, 2003). O citocromo C se liga ao fator de ativação da protease apoptótica 1 (Apaf-1) na presença de dATP. O complexo Apaf-1 / citocromo-c / dATP forma um "apoptosoma" oligomérico, que recruta e ativa o pro-caspase-9, que conduz à ativação de caspases efetoras, como a caspase-3 (Cain et al.,1999).

Nas células de mamíferos, as mitocôndrias têm papel central na apoptose, que é regulada por membros da família Bcl-2 (Garcia-Velasco, Arici, 2003). A família Bcl-2 é uma família de proteínas indutoras e repressoras de morte celular programada que participam ativamente da regulação da apoptose. Os membros da família Bcl-2, como Bcl-2 e Bcl-XL inibem a apoptose, pois previnem a liberação de citocromo C e são chamados de reguladores antiapoptóticos. Por outro lado, Bax, Bid e BAK são proteínas pró-apoptóticas. A Bcl-2 é capaz de inibir a expressão de espécies reativas do oxigênio e acidificação intracelular, bem como estabilizar o potencial de membrana da mitocôndria (Hengartner, 2000). A via mitocondrial integra o estresse e o desenvolvimento de alguns estímulos apoptóticos e é desencadeada pela translocação de membros da família Bcl-2 pró-apoptótica, como Bax e Bak, na superfície das mitocôndrias onde as proteínas antiapoptóticas estão localizadas (Garcia-Velasco, Arici, 2003).

A interação entre proteínas pró-apoptóticas (Bak, Bax) e antiapoptóticas (Bcl-2, Bcl-XL) interrompe a função normal de Bcl-2 e Bcl-XL e pode levar à formação de poros na membrana mitocondrial, liberação do citocromo C da mitocôndria no citosol induzindo assim a ativação da pró-caspase-9 (Garcia-Velasco, Arici, 2003). A homeostasia é mantida pelo controle da quantidade de proteínas antiapoptóticas e pró-apoptóticas. Estímulos, como dano ao DNA, levam ao aumento na expressão das proteínas pró-apoptóticas e esse desequilíbrio induz a apoptose (Petros et al., 2004).

A terceira via sugere que a indução do estresse do retículo endoplasmático (ER) e a subsequente ativação da resposta à proteína desenovelada (UPR) desempenham papel crítico na indução da apoptose (Taniguchi et al., 2011).

A apoptose ocorre em situações fisiológicas, como desenvolvimento embrionário, como também em condições patológicas, como em doenças degenerativas, onde o excesso da apoptose é observado, ou em situações em que ocorre a diminuição da apoptose, como nos casos de câncer, infecções virais e síndrome da deficiência adquirida (Ashkenazi, Dixit, 1998).

A resistência à apoptose pode promover a sobrevivência de células endometriais durante a menstruação e assim contribuir para o desenvolvimento dos implantes endometriais (Garcia-Velascos, Arici, 2003). Mulheres com endometriose apresentam diminuição de apoptose das células endometriais, o que implica em aumento de células endometriais viáveis na cavidade peritoneal, o que facilita a implantação dessas células (Gebel et al., 1998; D'Amora et al.,2009).

O refluxo de fragmentos endometriais durante a menstruação na cavidade peritoneal é fenômeno comum. Em mulheres com endometriose, pela diminuição da apoptose, as células aumentam a capacidade de aderir a células mesoteliais do peritônio, proliferar e produzir neoangiogênese, que resulta no desenvolvimento ativo dos implantes endometriais em locais ectópicos (Agic et al., 2009).

Esta característica das células endometriais, de resistência à apoptose, está associada à ativação e aumento da expressão de genes antiapoptóticos Bcl-2, Bcl-X e à diminuição ou inibição da expressão de fatores pró-apoptóticos, como BAX (Meresman et al., 2000; Jiang, Wu, 2012). A expressão alterada de Bcl-2 no endométrio de mulheres com endometriose diminuir a apoptose e contribui para a sobrevivência anormal das células nos locais ectópicos (Watanabe et al.,1997). A expressão de Fas é constante ao longo do ciclo menstrual, sugerindo que a expressão de Fas pode estar menos envolvida na apoptose de células endometrióticas (Harada et al., 1996). No entanto, em contraste com Fas, os níveis elevados de FasL séricos e no fluído peritoneal de mulheres com endometriose pode levar ao aumento da apoptose das células do sistema imunitário que possuam o Fas, diminuindo a destruição das células endometriais ectópicas, por parte do sistema imunitário, na cavidade peritoneal (Garcia-Velasco et al., 2002).

O aumento dos fatores de crescimento derivados de macrófagos na endometriose, incluindo o fator de crescimento derivado de plaquetas e o fator de crescimento transformador β (TGF-β), estimulam a apoptose mediada por Fas de células imunes. A IL-8 elevada no fluido peritoneal de pacientes com endometriose demonstrou estimular a apoptose induzida por FasL em linfócitos T ativados, o que pode contribuir para um ambiente imunoprivilegiado para a sobrevivência das células endometrióticas (Selam, 2012).

A apoptose reduzida de células endometriais, juntamente com o aumento da apoptose de células mononucleares de fluidos peritoneais, pode direcionar a homeostase peritoneal para um ambiente permissivo para a progressão da doença (Vetvicka et al., 2016). Entretanto, ainda não está claro se a apoptose anormal no endométrio de pacientes com endometriose é um processo primário ou secundário, após o estabelecimento da endometriose. Isso pode ser atribuído ao fato de que, no momento do diagnóstico clínico, a maioria das mulheres já estabeleceu a doença e, portanto, é muito difícil investigar os estágios iniciais de desenvolvimento da endometriose (Agic et al., 2009).

1.5 Motilidade celular

A migração celular desempenha papel central em ampla variedade de fenômenos biológicos e contribui para a progressão da maioria das doenças humanas (Ridley, 2015). No organismo adulto, a migração é essencial para uma resposta imune adequada, no reparo de feridas e homeostase tecidual, entretanto, em várias doenças apresenta-se de forma anormal (Trepat, 2012).

Apesar da grande complexidade de processos envolvidos na migração celular, podemos reconhecer três etapas gerais nas quais se divide o deslocamento sobre um substrato: etapa de protrusão, onde a célula alonga uma porção de sua membrana plasmática no sentido em que pretende se movimentar; etapa de ligação, na qual a célula conecta a porção projetada de sua membrana a um ponto no substrato; e etapa de tração, na qual a célula desloca a si própria em direção ao ponto onde ela ancorou a sua projeção no substrato (Lauffenburger, Horwitz,1996).

A célula basicamente coordena a polimerização/despolimerização de filamentos proteicos de seu citoesqueleto de maneira ordenada, de modo a promover deformações em sua membrana que a impulsionam pelo substrato, permitindo a sua migração. Muitos tipos de células dependem do movimento celular para o desenvolvimento de processos biológicos importantes, bem como a resposta a infecções e lesões (Lauffenburger, Horwitz,1996).

Para que a célula se mova, a resposta intracelular envolve a ativação de vias de sinalização relacionadas com migração e quimiotaxia. As Rho GTPases são um ponto de convergência na sinalização intracelular da migração, ditando a organização do citoesqueleto e formação das adesões (Ridley et al., 2003).

A desregulação da mobilidade ou migração celular pode causar doenças como anomalias do desenvolvimento, imunodeficiências e câncer (Kassner et al., 1995). A visão tradicional da metástase do câncer baseia-se na noção de que as células isoladas se separam dos tumores primários, rastejam pelo estroma, penetram nos vasos sanguíneos e linfáticos e finalmente colonizam os tecidos saudáveis para formar um tumor secundário. No entanto, evidências crescentes indicam que a disseminação do tumor é impulsionada não apenas por células isoladas, mas também por grupos celulares coesos (Christensen et al., 2013).

A endometriose exibe similaridade com o câncer, uma vez que os implantes de células endometriais requerem neovascularização para se estabelecerem, crescerem e invadirem tecidos (Trovó de Marqui, 2012).

Pouco se sabe sobre o papel dos mecanismos de motilidade celular para o estabelecimento e progressão dos implantes de endometriose. As células endometriais são altamente migradoras e invasivas no exterior da cavidade uterina, durante a progressão da endometriose, porém ainda não está claro o que causa e o que induz essas células a migrarem (Aihong, 2014).

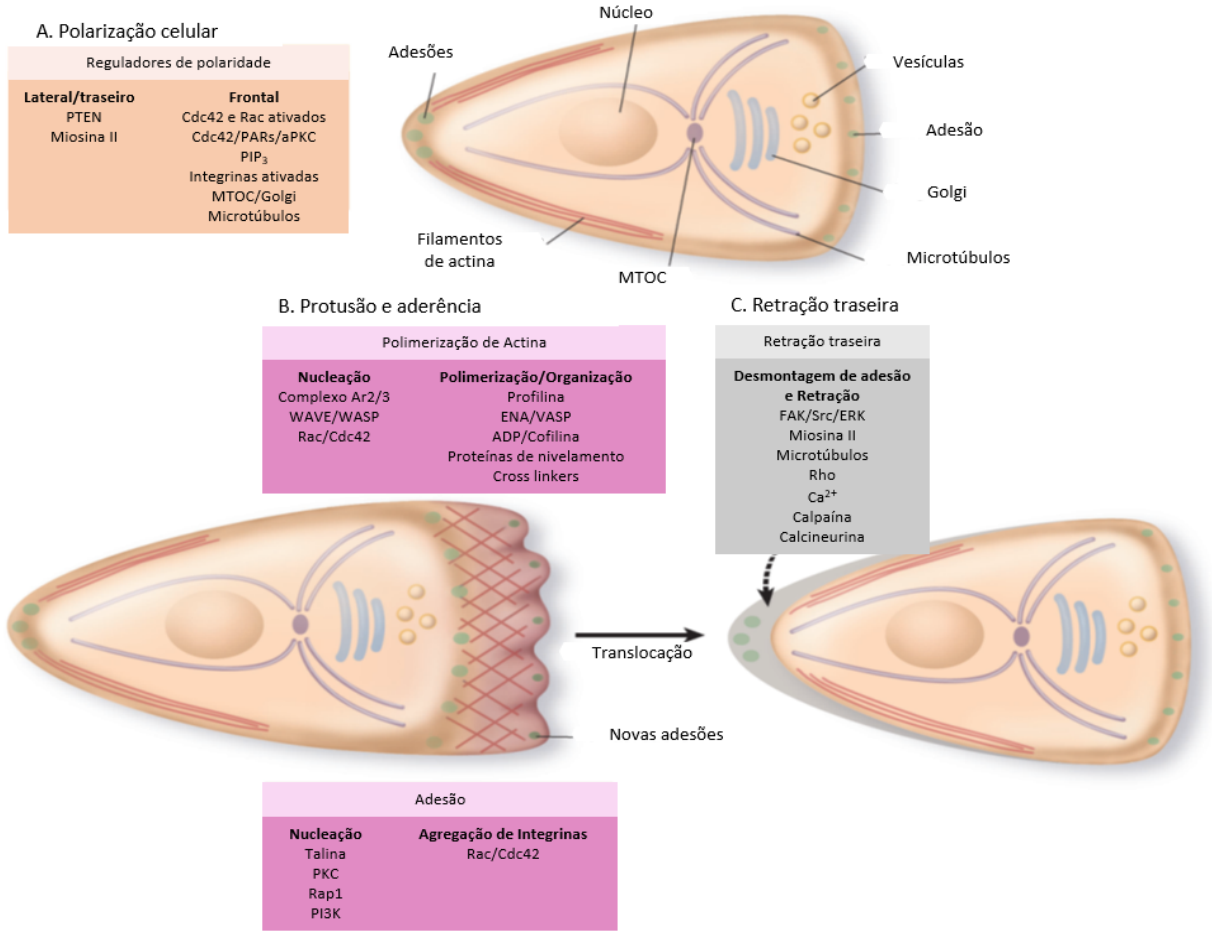

Figura 3 - Etapas da migração celular e a participação das Rho GTPases.
(A) polarização celular: várias moléculas estão envolvidas nesse processo, resultando no tráfego de vesículas em direção ao processo anterior, organização dos microtúbulos e localização do centro organizador de microtúbulo (MTOC) e aparato Golgi na frente do núcleo, esses processos são mediados por Rac e Cdc42. (B) formação da protrusão e adesão celulares: Rac e Cdc42 regulam a formação de filamentos de actina, via ARP2/3 e WASP/WAVE principalmente. As protrusões são estabilizadas pela formação de adesões e esse processo requer ativação de Rac mediada por integrina. (C) retração do processo posterior da célula: as adesões são desfeitas conforme o processo posterior retrai; este mecanismo é mediado por Rho.
Fonte: Ridley et al. (2003).

A endometriose apresenta uma patofisiologia complexa ainda não completamente elucidadada que envolve a desregulação de diversos mecanismos celulares como proliferação, apoptose, angiogênese e migração celular. Diante disso o entendimento da expressão gênica relacionada aos processos de migração celular pode trazer indícios para o melhor entendimento dos mecanismos envolvidos no início e progressão da doença. O processo de motilidade celular pode estar diretamente relacionado não só aos mecanismos celulares para invasão do mesotélio, mas também a migração das células e seu estabelecimento em sítios ectópicos distantes das áreas facilmente acessadas pelo fluido menstrual regurgitado através das tubas uterinas.

2. OBJETIVO

2.1 Objetivo

Avaliar a expressão de genes relacionados aos processos de motilidade celular em células primárias derivadas do endométrio de mulheres com endometriose profunda e mulheres sem a doença.

3. ARTIGO

ANALYSIS OF MOTILITY GENES EXPRESSION IN THE ENDOMETRIAL EPITHELIUM OF WOMEN WITH DEEP ENDOMETRIOSIS AND HEALTHY WOMEN

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ABSTRACT

Endometriosis is a common, benign, estrogen-dependent inflammatory disease and is a chronic gynecological disorder. The pathology affects approximately 10% of women in reproductive age and 35-50% of women who presents pelvic pain and infertility. Cell motility may play an important role in the initiation and development endometriosis, is essential for adequate immune response, wound repair and tissue homeostasis, nonetheless, in several pathologies it appears disrupted. Little is known on the role of cellular motility mechanisms

for the establishment and progression of endometriosis implants. Therefore, the aim of this study was to evaluate the expression of genes related to cell motility in patients with and without deep infiltrating pelvic endometriosis (DIE). For this, primary endometrium cells were isolated from topic endometrium of women aged between 29 and 35 years submitted to surgery for DIE (endometriosis group) and tubal ligation (control group). These cells were cultured until second passage and them assayed for motility gene expression through RT-PCR. It was possible to observe that endometrial cells from women with DIE downexpresses the *CAV1* gene, which is related to tumor suppression and overexpresses the *RHOB* and *PLD1* genes, which are involved in cell migration and progression. According to this, we suggest that these cell motility genes may play an important role in the establishment and progression of endometriosis.

INTRODUCTION

Endometriosis is a common, benign, estrogen-dependent inflammatory disease. This chronic gynecological disorder occurs when displaced menstrual tissues attach and exhibit patterns of cyclic growth outside the uterus. It can be a debilitating disease as the affected women can present dysmenorrhea, dyspareunia, and chronic pelvic pain (Carneiro et al., 2010). This pathology affects approximately 10% of women in reproductive age frequently resulting in severe pelvic pain and infertility (Bulun, 2009; Giudice, 2010).

Due to this significant individual and public health concerns associated with endometriosis, it is important to understand its pathogenesis and pathophysiology. The mechanisms of the disease are extensively studied but not yet 16ator16tely elucidated. The retrograde menstruation is the oldest and most accepted theory (Sampson, 1927), but it does not explain how only some women develop endometriosis, since all women have some degree of retrograde flow (Halme et al., 1984; Watkins, 1938; Liu & Hitchcock, 1986). It is well known that many physiological mechanisms such as cell cycle, apoptosis and inflammation are disrupted in women with endometriosis leading to the development of the disease (Ilie I, Ilie R, 2013).

The molecular disorders in the topic endometrium from women with endometriosis, such as escape from apoptosis, degradation of extracellular matrix, invasion, recruitment of inflammatory cells, acquisition of steroidogenic capacity, evasion from the immune system and enhanced angiogenesis capacity have already been established (Seli et al., 2003; May, 2011). Several factors, such as increased of inflammatory activity in the peritoneal fluid, angiogenesis and upregulating of pro-inflammatory cytokines may facilitate the pathogenesis of endometriosis, which is assumed to be a complex process (Kianpour, 2013).

Endometriosis has the unique status of being a benign metastatic disease and exhibits cancer similarity since endometrial cell implants require neovascularization to establish, grow, and invade tissues involving the expression of growth factors and cytokines related to this processes (Trovó de Marqui, 2012; Baldi, 2008). The ability of the endometriosis cells to spread to ectopic sites indicates that the cell migration may play an important role in the disease pathogenesis. Recently, the endometrial cells were characterized as being highly migratory and invasive in the uterine cavity during the endometriosis progression (Aihong, 2014). However, in spite of this, little is known regarding the mechanisms that leads the cells to this migratory and invasive behavior.

According to this, we have evaluated the expression of genes related to cell motility in patients with and without DIE in order to identify the putative contribution of these genes in the pathogenesis of endometriosis.

CASUISTICS AND METHODS

Study Participants and Sample Collection

Endometrial samples were obtained from informed volunteers in the Pelvic Pain and Endometriosis Unit of the Gynecology Department, Paulista Medical School of the Federal University of São Paulo (EPM-UNIFESP). The study was approved in the EPM-UNIFESP ethical comitee under number 0804/2018. Women between 29 and 35 years undergoing surgery for DIE (endometriosis group n=10) and the control group, comprised by women who underwent laparoscopy for tubal ligation (n=7) were recruited. All patients had a history of regular menses and were not taking any sex steroids or steroid-modulating medications three months before surgery and not given birth or breastfed in the three months prior to surgery. Patients presenting comorbidities like teratoma, endometrial polyps or any other proliferative disease were excluded. After general anesthesia and just before the surgical procedure,

endometrial tissue was collected using an endometrial curette. During laparoscopy, a systematic observation of the pelvis was conducted, and the patients were assigned to either the endometriosis or the control group. Patients' clinical data, such as laparoscopic diagnosis, age, and stage of endometriosis, were recorded.

Cell Culture

The endometrial tissue was collected and immediately placed in DMEM:F12 (Thermo Fisher Scientific, Inc., Waltham, MA, USA) medium containing 400U/Ml of penicillin and 400ug/Ml streptomycin, transported from surgical rooms of the University Teaching Hospital at EPM-UNIFESP to the Cell Culture facility in the Gynecology Department, stored at 4ºC and processed within 2–24h. The endometrial tissue was dissociated with 255U of collagenase type IA (Sigma-Aldrich; Merck KgaA, Darmstadt, Germany) in DMEM:F12 medium, incubated for 40 minutes in water bath (37ºC) under constant agitation. The cell suspension obtained was then centrifuged 500g for 5 min and the pellet resuspended in 5Ml of DMEM:F12 Ph7.4, 100U/Ml of penicillin and 100ug/Ml streptomycin supplemented with 10% of Fetal Bovine Serum (FBS; Gibco; Thermo Fisher Scientific Inc.) and inoculated in 25 cm^2 cell culture flask. The cells were grown in DMEM:F12, 1% antibiotics supplemented with 10% of FBS until reach approximately 90% of confluence and then subcultured in cultured flasks until de second passage. The cells on second passage were stored in liquid nitrogen.

RNA Isolation and Complementary DNA Synthesis

Total RNA was extracted from each sample using Trizol Reagent (Invitrogen Life Technologies, Carlsbad CA, USA), following the manufacturer's instructions. The RNA concentration and quality (260/280 ratio) were assessed using a Nanodrop instrument (Thermo Scientific, Wilmington, Delaware, USA). Reverse transcription was performed using a SuperScript VILO Cdna Synthesis Kit (Invitrogen by Life technologies) to generate double-stranded complementary DNA (Cdna). The resulting Cdna was stored at -20°C.

Polymerase Chain Reaction Array

Real-time quantitative polymerase chain reaction (RT2 Qpcr) assays were performed to evaluate gene expression using TaqMan™ Array Fast Plates (Applied Biosystems – Life Technologies – Thermo Fisher Scientific – CA – USA). The custom plate contains one manufacturing control (18S Rrna)**,** 11 endogenous control genes and 84 genes of interest involved in the cell motility. Thus, for this analysis, the array contained growth factors and receptors important for chemotaxis, genes involved in Rho family signaling and adhesion, and genes encoding components of various cellular projections. PCR arrays were performed for the following gene list: *Chemotaxis: FGF2 (BFGF), ITGB2, MAPK1 (ERK2), MYH10, MYH9, PLAUR (UPAR), PLD1, PRKCA, RAC2, TGFB1, VEGFA, WASF2, WIPF1. Receptors: EGFR (ERBB1), IGF1R, ITGA4 (CD49D), ITGB1, ITGB2, ITGB3, MET, PLAUR (UPAR), RHO. Growth Factors: CSF1 (MCSF), EGF, FGF2 (BFGF), HGF, IGF1, TGFB1, VEGFA. Rho Family GTPases: a) RHO Signaling: ACTR2, ACTR3, ARHGDIA, LIMK1, MSN, MYL9, MYLK, PLCG1, PLD1, PRKCA, PTEN, PTPN1 (PTP1B), RHO, RHOA, RHOB, RHOC, RND3, ROCK1, VIM. B) RAC Signaling: ACTR2, ACTR3, BAIAP2, CFL1, CRK, PAK1, PAK4, PLD1, PRKCA, RAC1, RAC2, STAT3, WASF1, WASF2, WASL. C) CDC42 Signaling: ACTR2, ACTR3, CDC42, PFN1, WASF1, WASF2, WASL. Cell Adhesion Molecules: Cell-Cell Adhesion: DPP4, EGFR (ERBB1), EZR, ITGA4 (CD49D), ITGB1, ITGB2, MSN, MYH9, ROCK1, TGFB1. Cell-Extracellular Matrix (ECM) Adhesion: ACTN1, ACTN3, CSF1 (MCSF), ILK, ITGB1, ITGB2, ITGB3, MMP14, PTEN, PTK2B (PYK2), PXN, RASA1, RHOA. Focal Adhesions: ACTN1, ACTN3, ARHGEF7, BCAR1, CAPN1, CAPN2,*

CAV1, ENAH, ILK, ITGB1, MYL9, PTK2 (FAK), PTK2B (PYK2), PXN, TLN1, VASP, VCL. Leukocyte Adhesion & Rolling: EZR, ITGA4 (CD49D), ITGB1, ITGB2, MSN, ROCK1. Integrin Signaling: BCAR1, ILK, ITGA4 (CD49D), ITGB1, ITGB2, ITGB3, MYH9, PTK2 (FAK). Cellular Projections: a) Filopodia: BAIAP2, CDC42, DIAPH1, EGFR (ERBB1), ENAH, EZR, MSN, RDX, SVIL, VASP. B) Lamellipodia: CTTN, DPP4, EGFR (ERBB1), ENAH, FAP, PIK3CA (p110-alpha), PLD1, PTK2 (FAK), PXN, RDX, SVIL, VASP, VCL, WASF1, WASF2, WASL. Stress Fibers: ACTN4, DIAPH1, MYH10, MYH9, RHOA, RHOB, RHOC. Membrane Blebs: ACTN1, ACTN3, ACTN4, EZR, MYH10, MYH9, MYLK, RND3, ROCK1. Invasive Projections: ACTR2, ACTR3, ARF6, CDC42, CFL1, CTTN, DPP4, EGF, EZR, FAP, MMP14, MMP2, MMP9, MSN, MYH9, PLAUR (UPAR), RAC2, RASA1, SH3PXD2A, SRC, SVIL, TGFB1, VEGFA, WASL, WIPF1. Growth Cones: ARHGEF7, CDC42, CFL1, PTK2B (PYK2). Membrane Ruffles: ACTR2, ACTR3, ARF6, BAIAP2, BCAR1, CTTN, DIAPH1, EZR, ITGB1, MYH9, RAC1, RAC2, RDX, RHOA, TLN1, WASF2. Cell Polarity: CDC42, CFL1, EZR, IGF1R, ILK, MYH9. Proteases & Protease Inhibitors: AKT1, CAPN1, CAPN2, DPP4, FAP, HGF, MMP14, MMP2, MMP9, MYH9, PLAUR (UPAR), TIMP2. Endogenous control: 18S, ACTB, B2M, GAPDH, HPRT1, PGK1, PPIA, RPLP0, GUSB, IPOS, POLR2A, UBC. The 96-well PCR array plates were assayed using a Step One Plus Real-Time PCR System (Applied Biosystems, Life Technologies – Termo Fisher Scientific, Foster City, CA – USA). Cycle threshold (Ct) values and the ΔΔCt values expression were analyzed in the software Expression Suite v1.0.3 (Applied Biosystems, Life Technologies – Termo Fisher Scientific, Foster City, CA – USA).

In sylico analysis

The 84 genes tested for Mrna expression were searched in the MEDLINE database using PubMed. No language filters or date restrictions were applied in the searches. The searches applied the gene names and the MeSH terms 'Endometriosis', 'Inflammation', and 'Neoplasm'. The results were screened and those articles related to endometriosis selected.

Statistical Analyses

The results were analyzed using the software Expression Suite v1.0.3 (Applied Biosystems, Life Technologies – Termo Fisher Scientific, Foster City, CA – USA). The software compares two groups through paired Student's t-test according to the $2^{-\Delta CT}$ expression levels in replicates. Data are expressed as fold change ($2^{-\Delta\Delta CT}$) between endometriosis and control groups in all experiments. The $p \leq 0.05$ values were considered significant with 95% of confidence.

RESULTS

In the present study we have evaluated the expression of 84 cell motility genes in the primary cells derived from the topic endometrium from 17 women (endometriosis group n=10 and control group n=7). The mean age of the study subjects was 36.2 ± 1.71 years for the endometriosis group and 37.8 ± 2.64 for the control group ($p = 0.1485$). Three genes were differentially expressed in the group of women with deep endometriosis, two upregulated: *RHOB* (1.729-fold, with $p = 0.052$,) and *PLD1* (2.8-fold, with $p = 0.018$) and one downregulated: *CAV1* (-2.478-fold, with $p = 0.061$) (Figure 1 and 2).

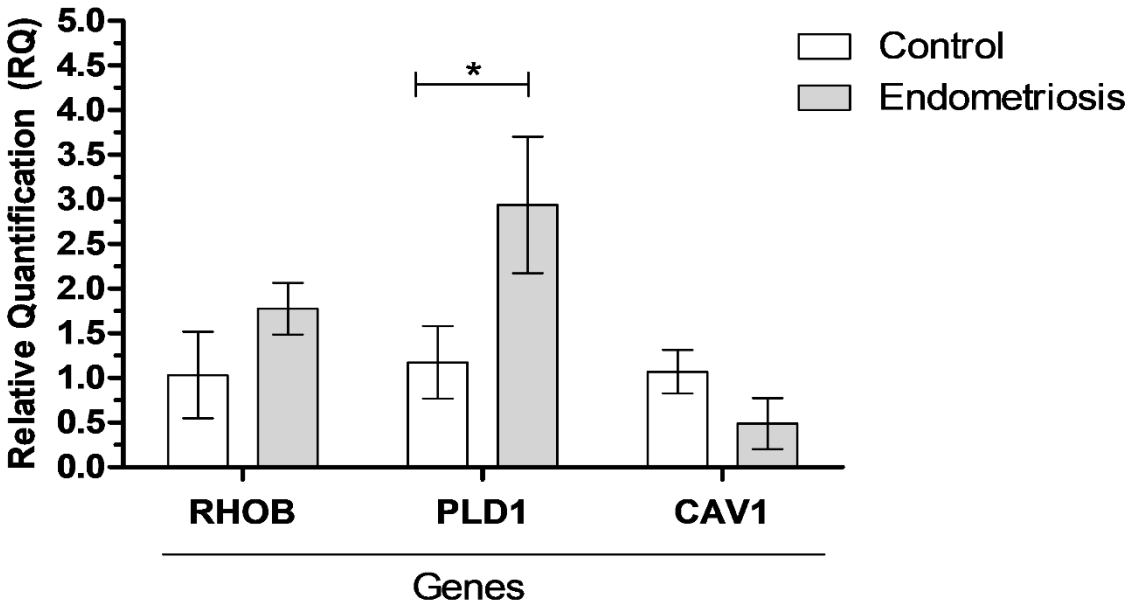
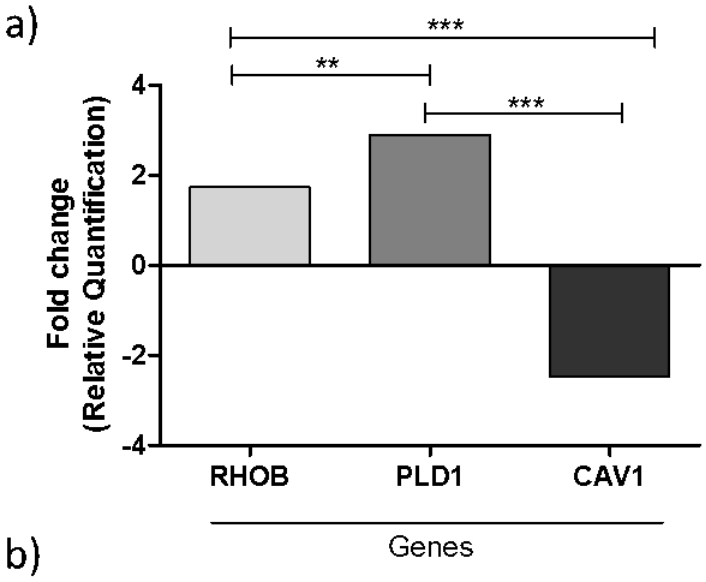


Figure 1 **Comparation of genes by endometriosis women**. The axis X represent the differentially expressed genes in endometriosis women compared to control group (healthy woman). Axis Y represent the relative quantification (RQ) – Endometriosis/Control, which is determined by comparing the expression of the target gene with endogenous control genes (*GAPDH* and *IPO3*). Student paired t-test, $p<0.05$.



Gene	Unigene ID	Fold change	P value (95%CI)
RHOB	Hs03676562	1.729	0.052269
PLD1	Hs00160118	2.894	0.018446
CAV1	Hs00971716	-2.478	0.060514

Figure 2 Differentially expresses cell motility genes in the primary endometrial cells. A) fold change of relative quantification of *RHOB*, *PLD1* and *CAV1* by endometriosis woman group, and (b) descriptive table.

The interaction gene cluster of *RHOB*, *CAV1*, and *PLD1* with *Homo sapiens* sequences analysis is represented in Figure 3. The correlation of the statistically significant genes expressed through the bioinformatics technique was able to reveal the interactions with other cell cycle and cell metabolism genes. The results showed that the *CAV1* gene has a direct interaction with *PLD1* gene, both statistically significant expressed in our study.

The others cell motility genes evaluated did not present statistically significant expression differences ($p > 0.05$) when compared to the control group. Among the 84 genes studied, 44 genes were up-regulated and 40 genes were down-regulated. From those, three genes had fold change >2.0 *ITGB2 (*4.89 *fold; p*=0.36), *IGF1* (4,75 *fold ; p*=0.51) *SVIL* (2,29-*fold; p*=0.17) and others three genes a fold change <-2.0 EGF (-2.16 *fold ; p*=0.24)*, MET* (-2,0 *fold ; p*=0.19), HGF (-2.03 *fold ; p*=0.67) regardless of the non significant p-value.

The *in silico* analysis for the 84 target genes searched in conjunction with Mesh terms 'endometriosis', 'inflammation' and 'neoplasm' are described in the tables 1 and 2. We found 2,789 articles that relate the cellular motility genes used in this study and endometriosis. Some genes that have been extensively related to endometriosis pathogenesis in several studies (Table 1) do not showed statistically significant fold changes between endometriosis and control groups; such as *VEGF* (1.48-fold; *p*=0.27), *MMP14* (1.05 fold, *p*=0.40), *MMP9* (1.32-fold, *p*=0.27) and *MMP2* (1.32-fold, *p*=0.29).

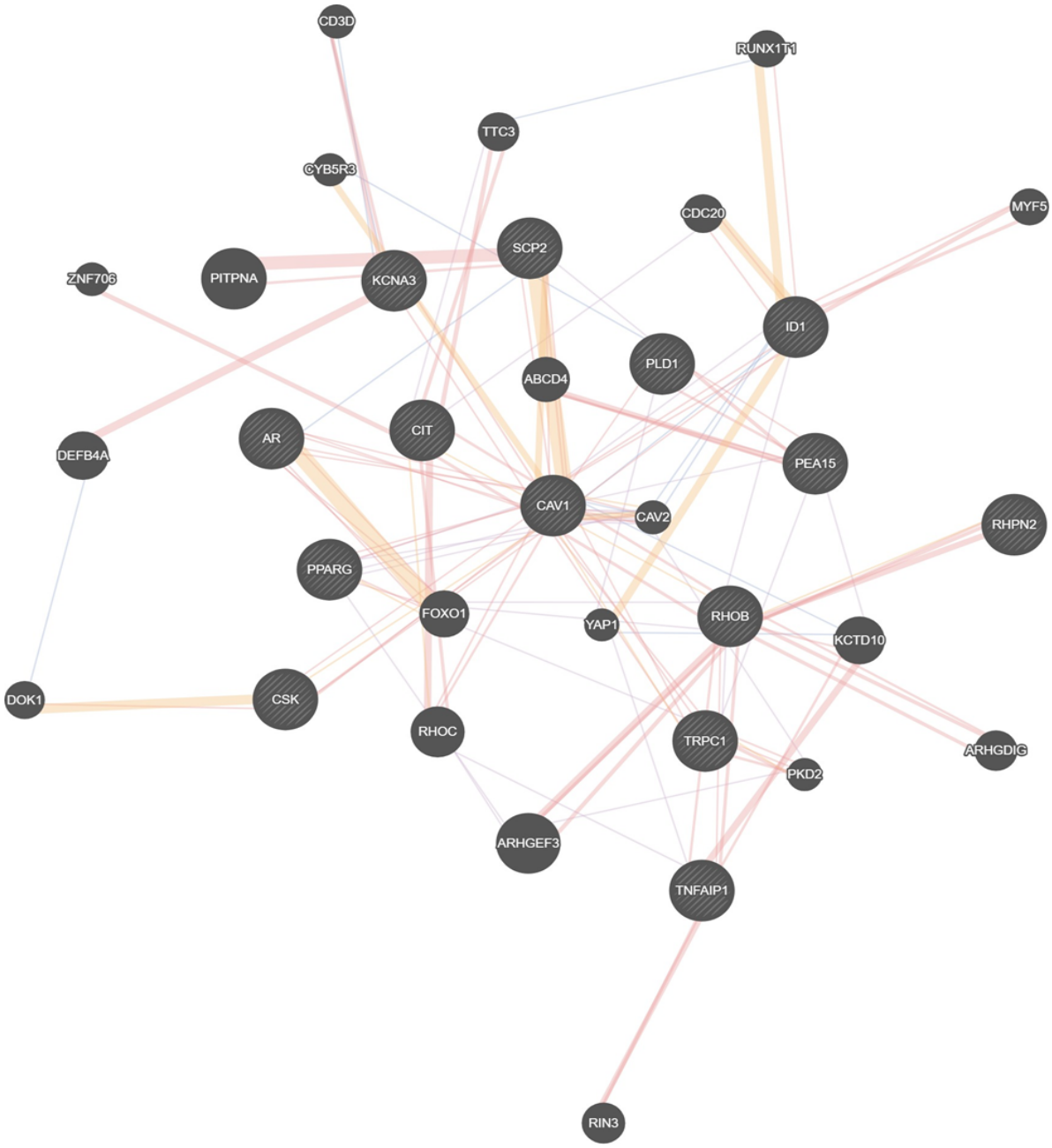


Figure 3 Genes interactome. The key of gene cluster is RHOB, CAV1 and PLD1 in *Homo sapiens* sequences. The yellow lines are predicted (45.95%), in rose line are physical interactions (44.97%) and blue lines are co-localization (1.65%).
Source: GeneMania

Table 1. Relation of the 84 target genes customized in the plate array that influences the cellular motility and correlation with endometriosis literature.

GENE	GENE NAME	SYNONYMOUS	HUMAN CELL MOTILITY INFLUENCE	GENE ACTIVITY	NUMBER OF ARTICLES RELATED TO ENDOMETRIOSIS
FGF2	fibroblast growth factor 2	BFGF; FGFB; FGF-2; HBGF-2	Chemotaxis; Growth Factors	Diverse biological processes, such as limb and nervous system development, wound healing, and tumor growth.	12
MAPK1	mitogen-activated protein kinase 1	ERK; p38; p40; p41; ERK2; ERT1; ERK-2; MAPK2; PRKM1; PRKM2; P42MAPK; p41mapk; p42-MAPK	Chemotaxis	Integration point for multiple biochemical signals, and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and development	8
PLAUR	plasminogen activator, urokinase receptor	CD87; UPAR; URKR; U-PAR	Chemotaxis; Receptors; Cellular Projections (Invasive Projections); Proteases & Protease Inhibitors	Influences many normal and pathological processes related to cell-surface plasminogen activation and localized degradation of the extracellular matrix.	4
TGFB1	transforming growth factor beta 1	CED; LAP; DPD1; TGFB; TGFbeta	Chemotaxis; Growth Factors; Cell Adhesion Molecules (Cell-Cell Adhesion); Cellular Projections (Invasive Projections)	This encoded protein regulates cell proliferation, differentiation and growth, and can modulate expression and activation of other growth factors. Upregulated in tumor cells	36
VEGFA	vascular endothelial growth factor A	VPF; VEGF; MVCD1	Chemotaxis; Growth Factors; Cellular Projections (Invasive Projections)	This growth factor induces proliferation and migration of vascular endothelial cells, and is essential for both physiological and pathological angiogenesis.	279
EGFR	epidermal growth 22ator receptor	ERBB; HER1; Mena; ERBB1; PIG61; NISBD2	Receptors; Cell Adhesion Molecules (Cell-Cell Adhesion); Cellular Projections (Filopodia and Lamellipodia)	Cell surface protein that binds to epidermal growth factor.	30
ITGA4	integrin subunit alpha 4	IA4; CD49D	Receptors; Cell Adhesion Molecules (Cell-Cell Adhesion and Leukocyte Adhesion); Integrin Signaling	Function in cell surface adhesion and signaling and may play a role in cell motility and migration.	1
MMP9					

MMP9	Matrix Metallopeptidase 9	GELB; CLG4B; MMP-9; MANDP2	Cellular Projections (Invasive Projections); Proteases & Protease Inhibitors	Proteins are involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis	99
MET	MET proto-oncogene, receptor tyrosine	HGFR; AUTS9; RCCP2; c-Met; DFNB97	Receptors	Plays a role in cellular survival, embryogenesis, and cellular migration and invasion.	4
CSF1	colony stimulating factor 1	MCSF; CSF-1	Growth Factors; Cell Adhesion Molecules (Cell-Extracellular Matrix (ECM) Adhesion)	The protein encoded by this gene is a cytokine that controls the production, differentiation, and function of macrophages.	6
EGF	epidermal growth factor	URG; HOMG4	Growth Factors; Cellular Projections (Invasive Projections)	Mitogenic factor that plays an important role in the growth, proliferation and differentiation of numerous cell types and dysregulation associated with the growth and progression of certain cancers.	28
HGF	hepatocyte growth factor	SF; HGFB; HPTA; F-TCF; DFNB39	Growth Factors; Proteases & Protease Inhibitors	This gene encodes a protein that binds to the hepatocyte growth factor receptor to regulate cell growth, cell motility and morphogenesis in numerous cell and tissue types.	24
IGF1	insulin like growth factor 1	IGF; MGF; IGFI; IGF-I	Growth Factors	Involved in mediating growth and development.	21
DPP4	dipeptidyl peptidase 4	CD26; ADABP; ADCP2; DPPIV; TP103	Cell Adhesion Molecules (Cell-Cell Adhesion); Cellular Projections (Lamellipodia and Invasive Projections); Proteases & Protease Inhibitors	The protein encoded by this gene is identical to adenosine deaminase complexing protein-2, and to the T-cell activation antigen CD26.	2
ILK	integrin linked kinase	P59; ILK-1; ILK-2; p59ILK; HEL-S-28	Integrin Signaling; Cell Adhesion Molecules (Cell-Extracellular Matrix (ECM) Adhesion and Focal Adhesions); Cell Polarity	The encoded protein associates at the cell membrane with the cytoplasmic domain of beta integrins. Important in the epithelial to mesenchymal transition, and over-expression of this gene is implicated in tumor growth and metastasis.	3
ARHGEF7	Rho guanine nucleotide exchange factor 7	P50; P85; PAK3; PIXB; COOL1; P50BP; COOL-1; P85SPR; BETA-PIX; P85COOL1; Nbla10314	Cell Adhesion Molecules (Focal Adhesions); Cellular Projections (Growth Cones)	This gene encodes a protein that belongs to a family of cytoplasmic proteins that activate the Ras-like family of Rho proteins by exchanging bound GDP for GTP. It forms a complex with the small GTP binding protein Rac1 and recruits Rac1 to membrane ruffles and to focal adhesions.	1

PTK2	protein tyrosine kinase 2	FAK; FADK; FAK1; FRNK; PPP1R71; p125FAK; pp125FAK	Cell Adhesion Molecules (Focal Adhesions); Integrin Signaling; Cellular Projections (Lamellipodia)	This gene encodes a cytoplasmic protein tyrosine kinase, which is found concentrated in the focal adhesions that form between cells growing in the presence of extracellular matrix constituents. Activation of this gene may be an important early step in cell growth and intracellular signal transduction.	3
VCL	vinculin	MV; MVCL; CMD1W; CMH15; HEL114	Cell Adhesion Molecules (Focal Adhesions); Cellular Projections (Lamellipodia)	Vinculin is a cytoskeletal protein associated with cell-cell and cell-matrix junctions, where it is thought to function as one of several interacting proteins involved in anchoring F-actin to the membrane.	1
RDX	radixin	DFNB24	Cellular Projections (Filopodia, Lamellipodia and Membrane Ruffles)	Radixin is a cytoskeletal protein that may be important in linking actin to the plasma membrane. It is highly similar in sequence to both ezrin and moesin.	1
PIK3CA	phosphatidylinositol -4,5-bisphosphate 3-kinase catalytic subunit alpha	MCM; CWS5; MCAP; PI3K; CLOVE; MCMTC; PI3K-alpha; p110-alpha	Cellular Projections (Lamellipodia)	This gene has been found to be oncogenic and has been implicated in cervical cancers.	7
MMP2	matrix metallopeptidase 2	CLG4; MONA; CLG4A; MMP-2; TBE-1; MMP-II	Cellular Projections (Invasive Projections); Proteases & Protease Inhibitors	Unlike most MMP family members, activation of this protein can occur on the cell membrane. This protein is thought to be involved in multiple pathways including roles in the nervous system, endometrial menstrual breakdown, regulation of vascularization, and metastasis.	84
ACTN4	actinin alpha 4	FSGS; FSGS1; ACTININ-4	Cellular Projections (Stress Fibers and Membrane Blebs)	This gene encodes a nonmuscle, alpha actinin isoform that is concentrated in the cytoplasm, and thought to be involved in metastatic processes. Mutations in this gene have been associated with focal and segmental glomerulosclerosis.	1
AKT1	AKT serine/threonine kinase 1	AKT; PKB; RAC; CWS6; PRKBA; PKB-ALPHA; RAC-ALPHA	Proteases & Protease Inhibitors	AKT is a critical mediator of growth factor-induced neuronal survival in the developing nervous system.	4
TIMP2	TIMP metallopeptidase inhibitor 2	DDC8; CSC-21K	Proteases & Protease Inhibitors	The proteins encoded by this gene family are natural inhibitors of the matrix metalloproteinases, a group of peptidases involved in degradation of the extracellular matrix. In addition to an inhibitory role against metalloproteinases, the encoded protein has a unique role among TIMP family members in its ability to directly suppress the proliferation of endothelial cell.	29

SRC	SRC proto-oncogene, non-receptor tyrosine kinase	ASV; SRC1; THC6; c-SRC; p60-Src	Cellular Projections (Invasive Projections	This proto-oncogene may play a role in the regulation of embryonic development and cell growth. Mutations in this gene could be involved in the malignant progression of colon cancer.	1

Table 2. Relation of genes customized in array plate involved in endometriosis that are related to Rho GTPases influence cell motility and the correlation with endometriosis literature.

GENE	GENE NAME	SYNONYMOUS	HUMAN CELL MOTILITY INFLUENCE	GENE ACTIVITY	NUMBER OF ARTICLES RELATED TO ENDOMETRIOSIS
MSN	moesin	HEL70; IMD50	Rho Family GTPases (RHO Signaling); Cell Adhesion Molecules (Cell-Cell Adhesion and Leukocyte Adhesion); Cellular Projections (Filopodia and Invasive Projections)	Important for cell-cell recognition and signaling and for cell movement.	1
PTEN	phosphatase and tensin homolog	BZS; DEC; CWS1; GLM2; MHAM; TEP1; MMAC1; PTEN1; 10q23del; PTENbeta	Rho Family GTPases (RHO Signaling); Cell Adhesion Molecules (Cell-Extracellular Matrix (ECM) Adhesion)	This gene was identified as a tumor suppressor that is mutated in a large number of cancers at high frequency.	23
RHOA	ras homolog family member A	ARHA; ARH12; RHO12; RHOH12	Rho Family GTPases (RHO Signaling); Cell Adhesion Molecules (Cell-Extracellular Matrix (ECM) Adhesion); Cellular Projections (Membrane Ruffles and Stress Fibers)	Rho proteins promote reorganization of the actin cytoskeleton and regulate cell shape, attachment, and motility. Overexpression of this gene is associated with tumor cell proliferation and metastasis.	4
RHOC	ras homolog family member C	H9; ARH9; ARHC; RHOH9	Rho Family GTPases (RHO Signaling); Cellular Projections (Stress Fibers)	This gene promote reorganization of the actin cytoskeleton and regulate cell shape, attachment, and motility. It is thought to be important in cell locomotion. Overexpression of this gene is associated with tumor cell proliferation and metastasis	3
ROCK1	Rho associated coiled-coil containing protein kinase 1	ROCK-I; P160ROCK	Rho Family GTPases (RHO Signaling); Cell Adhesion (Cell-Cell Adhesion and Leukocyte Adhesion); Cellular Projections (Membrane Blebs)	This gene encodes a protein serine/threonine kinase that is activated when bound to the GTP-bound form of Rho. The small GTPase Rho regulates formation of focal adhesions and stress fibers of fibroblasts, as well as adhesion and aggregation of platelets and lymphocytes Rho is also	2

				essential in cytokinesis and plays a role in transcriptional activation by serum response factor.	
VIM	vimentin	N/A	Rho Family GTPases (RHO Signaling)	The encoded protein is responsible for maintaining cell shape and integrity of the cytoplasm, and stabilizing cytoskeletal interactions. This protein is involved in neuritogenesis and cholesterol transport and functions as an organizer of a number of other critical proteins involved in cell attachment, migration, and signaling.	43
CFL1	cofilin 1	CFL; cofilin; HEL-S-15	Rho Family GTPases (RAC Signaling); Cellular Projections (Invasive Projections and Growth Cones); Cell Polarity	Cofilin is a widely distributed intracellular actin-modulating protein that binds and depolymerizes filamentous F-actin and inhibits the polymerization of monomeric G-actin in a pH-dependent manner. It is involved in the translocation of actin-cofilin complex from cytoplasm to nucleus.	5
CRK	CRK proto-oncogene, adaptor	p38; CRKII	Rho Family GTPases (RAC Signaling);	The product of this gene has several SH2 and SH3 domains (src-homology domains) and is involved in several signaling pathways.	1
PAK1	p21 (RAC1) activated kinase 1	PAKalpha	Rho Family GTPases (RAC Signaling)	This gene encodes a family member of serine/threonine p21-activating kinases, known as PAK proteins. These proteins are critical effectors that link RhoGTPases to cytoskeleton reorganization and nuclear signaling, and they serve as targets for the small GTP binding proteins Cdc42 and Rac. This specific family member regulates cell motility and morphology.	5
PAK4	p21 (RAC1) activated kinase 4	N/A	Rho Family GTPases (RAC Signaling)	PAK4 is a mediator of filopodia formation and may play a role in the reorganization of the actin cytoskeleton.	1
RAC1	Rac family small GTPase 1	MIG5; MRD48; Rac-1; TC-25; p21-Rac1	Cellular Projections (Membrane Ruffles); Rho Family GTPases (RAC Signaling)	The protein encoded by this gene is a GTPase which belongs to the RAS superfamily of small GTP-binding proteins. Members of this superfamily appear to regulate a diverse array of cellular events, including the control of cell growth, cytoskeletal reorganization, and the activation of protein kinases. Two transcript variants encoding different isoforms have been found for this gene	1
CDC42	cell division cycle 42	TKS; G25K; CDC42Hs	Rho Family GTPases (CDC42 Signaling); Cellular Projections (Filopodia, Invasive Projections and Growth Cones); Cell Polarity	The protein encoded by this gene is a small GTPase of the Rho-subfamily, which regulates signaling pathways that control diverse cellular functions including cell morphology, migration, endocytosis and cell cycle progression.	2
STAT3	signal transducer and activator of transcription 3	APRF; HIES; ADMIO; ADMIO1	Rho Family GTPases (RAC Signaling)	This protein is activated through phosphorylation in response to various cytokines and growth factors including IFNs, EGF, IL5, IL6, HGF, LIF and BMP2. This protein mediates the expression of a variety of genes in response to cell stimuli, and thus plays a key role in many cellular	9

				processes such as cell growth and apoptosis. The small GTPase Rac1 has been shown to bind and regulate the activity of this protein.	

DISCUSSION

In this study we have evaluated the expression of cell motility genes in primary endometrial stromal cells from women with and without endometriosis. Only few studies have addressed the cell motility on endometriosis. We have reported three genes related to cell motility differentially expressed in DIE women cells: *PLD1*, *RHOB* and *CAV1*. Surprisingly, some genes regularly addressed to be differentially expressed in the topic endometrium from women with endometriosis were not identified as being differentially expressed in our sample. Perhaps due to the culture system that could not be able to fully mimic the endometrium environment, i.e. the expression of MMPs is need for the invasion of mesothelial layer of the peritonium (Gilabert-Estellés et al., 2007; Sotnikova et al., 2010; Itoh et al., 2012, Kyama et al. 2006) but we do not found MMPs differentially expressed.

The eutopic endometrium from women with endometriosis presents particular physiological characteristics, such as the aberrant production of cytokine, growth, adhesion and angiogenic factors as well as specific cancer-related molecules, which have been linked to the occurrence and maintenance of this disease (Giudice, 2010). Considering cell motility a determinant factor for the pathogenesis of several diseases, such as cancer and that endometriosis shares characteristics such as the development of local and distant cell foci, attachment, and invasion of other tissues (Jacobson et al., 2009) it is important to correlate these motility genes with endometriosis.

The *RHOB* is a gene from the Rho GTPases family, which includes 20 small G proteins that regulates the cytoskeleton and other cellular functions, including different processes during the formation of new blood vessels, cell cycle and proliferation, survival, and migration of endothelial cells (Bryan, 2007). Many human tumors show increased expression of Rho GTPase genes. *RHOB* is involved in some different processes, as the loss of expression that leads to progression of lung cancer (Mazieres et al., 2004) and its reduction to progression of head and neck squamous cell carcinoma (Adnane et al., 2002). However, corroborating with our results, the *RHOB* gene is also overexpress in breast cancer and is related to its progression (Fritz, 1999; Fritz, 2002). It is known that *RHOB* expression is transiently induced by a variety of stimuli, including DNA damage, stress stimuli and growth factors, suggesting that it could under some circumstances contribute to cell invasion and migration (Croft, Olson, 2011; Ridley, 2013). We found 13 genes belonging to the Rho family GTPases that are related to the process of endometriosis. Thus, according to our results, *RHOB* can be related to the cellular motility processes that occurs in endometriosis development.

PLD1, a phosphodiesterase enzyme, which acts as a key component of multiple signaling and metabolic pathways, participating on several physiological cellular functions, such as intracellular protein trafficking, cytoskeletal dynamics, membrane remodeling and cell proliferation (Ponting, Kerr, 1996). *PLD1* has been linked to cell migration in multiple settings for non-transformed cells (Kim et al., 2006) and may have similar roles in some types of cancer cells. Its activation plays a vital role in actin cytoskeleton formation being a key element for cell migration and tumor invasion (Cross et al., 1996). Human cancer metastasis displays abnormalities in *PLD1* expression and activity (Foster, Xu, 2003; Gomez-Cambronero, 2014). This gene is upregulated in metastasis of lung squamous cell carcinoma (Uchida et al., 1997), breast invasive carcinoma (Noh et al., 2000), uterine corpus

endometrioid carcinoma (Uchida et al., 1999) and renal cancers (Zhao et al., 2000). In ovarian cancer cells, *PLD1* is shown to be essential for agonist-induced lysophosphatidic acid production and promotes motility, growth, and proliferation (Luquain et al., 2003). In our analyses, *PLD1* appears upregulated suggesting that cell migration may play an role in endometriosis and must be addressed in new investigations

The caveolin-1 (*CAV1)* are structural proteins used by cells to form caveolae, which are found in many cell types and are notably abundant in fibroblasts, adipocytes, endothelial cells, type I pneumocytes, epithelial cells, and smooth and striated muscle cells (Razani et al., 2001). Investigators have discovered that caveolae organelles may be important both in regular signal transduction and in pathogenesis of a number of human diseases, such as cancer (Razani et al., 2001). A large body of evidence suggests that *CAV1* is a putative tumor suppressor, which interacts with and inactivates a number of signaling molecules along survival/proliferation pathways and point that *CAV1* expression may sensitize cells towards apoptosis, providing a coupling or sensitizing function in signaling cell death (Liu et al., 2001). *CAV1* mRNA and protein levels are downregulated during cell transformation of cultured NIH 3T3 cells, in transgenic mouse models of breast cancer and in cell lines derived from human breast cancers (Engelman et al., 1997; Engelman et al., 1998b; Lee et al., 1998; Sager et al., 1994). Our analyses have shown a decrease in the *CAV1* gene expression in women with DIE, suggesting their contribution to the proliferation of endometriotic cells.

RHOB, *PLD1* and *CAV1* have interactions between each other based on bioinformatics analysis of human sequences. Both genes are involved in cell migration and *CAV1* is strongly related to sterol carrier protein 2 (SCP2), *CAV2* and cytochrome b5 reductase (CYB5R3) that are genes involved in lipid metabolism, cellular growth control and apoptosis (Martin-Montalvo et al., 2016; Fujimoto et al., 2001). It is well known the relation of disruption of hormonal metabolism in endometriosis (Lani, 2009). Reinforcing our results on the differential expression of this genes in DIE. Also, the gene *RHOB* has close interaction with transient receptor potential cation channel (TRPC1), Rho guanine nucleotide exchange factor 3 (ARHGEF3) and Rhophilin Rho GTPase binding protein 2 (RHPN2) both by Rho Family, broadly responsible by cellular migration (Ridley et al., 1999). Therefore, the *PLD1* gene demonstrated interaction with proliferation and apoptosis adaptor protein 15 (PEA15) (Viparelli et al., 2008). The multiparametric genes in the cluster given a general view, and it represents the broadly motility genes interactions in endometriosis, highlighting the relation between lipid metabolism and cell migration. Indicating the relevance of cell migration on endometriosis pathogenesis.

CONCLUSION

We have observed that primary endometrial cells from women with DIE have the expression of the genes *CAV1* downregulated and *RHOB* and *PLD1* upregulated. These three genes are related to the cell migration process, indicating a putative role of this cellular process in the development and progression of DIE.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

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4. DISCUSSÃO

A literatura apresenta poucos estudos relacionando a motilidade celular com o surgimento e desenvolvimento da endometriose. Neste estudo, observamos que os genes *RHOB*, *PLD1* e *CAV1,* envolvidos na motilidade celular, foram expressos diferencialmente no grupo de mulheres com endometriose profunda. A endometriose é um problema de saúde pública, especificamente da saúde da mulher, que apresenta custos significativos tanto para o sistema público quanto para o privado. Além disso, é uma doença que causa grande desconforto e dor, interferindo na produtividade e qualidade de vida da mulher e, em alguns casos, levando a infertilidade. O endométrio das mulheres com endometriose apresenta algumas características específicas que têm sido relacionadas diretamente à fisiopatologia da doença, como: produção aberrante de citocinas, fatores de crescimento, fatores de adesão e fatores angiogênicos (Giudice, 2010).

Neste trabalho, pesquisamos na literatura os artigos relacionados aos 84 genes-alvo, selecionados para o estudo *in* vitro, utilizando os termos *Mesh*: 'endometriose', 'inflamação' e 'neoplasia'. Foram selecionados 624 artigos que relacionavam os 84 genes de motilidade celular com a endometriose. A pesquisa realizada mostrou que 44% dos genes-alvo aparecem em artigos que abordam a endometriose, 32,2% dos genes aparecem em artigos aboradando

neoplasias e inflamação, 22,6% dos genes aparecem exclusivamente relacionados a neoplasias e 1,2% não estão relacionados a nenhum dos termos selecionados (dados até a data da pesquisa). Curiosamente, nenhum gene apareceu relacionado somente ao termo "inflamação".

A motilidade celular é um fator determinante para a patogênese de doenças como o câncer. A endometriose compartilha de alguns mecanismos com o câncer, como o desenvolvimento de focos locais e distantes do tecido de origem e a capacidade de adesão e invasão de outros tecidos (Jacobson et al., 2009). Diante disso, é importante correlacionar os genes relacionados à motilidade com a endometriose, porém poucos estudos abordam esse tema. A seguir discutiremos cada um dos genes mais importantes relacionados à endometriose que se apresentaram diferencialmente expressos nas mulheres com endometriose profunda.

As *Rho GTPases* são uma família de 20 pequenas proteínas G que regulam o citoesqueleto e outras funções celulares, incluindo diferentes processos durante a formação de novos vasos sanguíneos, ciclo e proliferação celular, sobrevivência e migração de células endoteliais (Bryan, 2007). A motilidade celular está intimamente ligada às funções do citoesqueleto de actinomiosina (Ridley et al., 2003) e as pequenas proteínas *Rho GTPases* são importantes reguladores das vias de sinalização que regulam a organização da actina e a migração celular (Etienne-Manneville, 2002). Nesse sentido, é importante destacar que os 13 genes pertencentes à família *Rho GTPases* estão relacionados ao processo de endometriose, de acordo a literatura pesquisada. Os resultados obtidos para a pesquisa da literatura estão descitos nas tabelas 1 e 2 (artigo anexo).

A Família *Rho GTPase*, que inclui o gene *RHOB*, é homóloga a família Ras e regula alterações na morfologia celular, tráfego de vesículas, secreção de proteínas, citocinese, adesão e migração celular (Ridley et al., 2003). Muitos tumores em humanos apresentam expressão aumentada dos genes *Rho GTPase*. O *RHOB* tem sua expressão diminuída na progressão do câncer de pulmão (Mazieres et al., 2004) e também no carcinoma de cabeça e pescoço (Adnane et al., 2002). No entanto, corroborando com nossos resultados, o gene *RHOB* também é hiper-regulado no câncer de mama e está relacionado à progressão da doença (Fritz, 1999; Fritz, 2002). Sabe-se que a expressão de *RHOB* é induzida transitoriamente por uma variedade de estímulos, incluindo danos ao DNA, estímulos de estresse e fatores de crescimento, sugerindo que, em algumas circunstâncias, possa contribuir para a invasão e migração celular (Croft, Olson, 2011; Ridley, 2013). Assim, de acordo com nossos resultados, a expressão de *RHOB* pode estar relacionado ao processo de motilidade celular, contribuindo para o desenvolvimento da endometriose.

O *PLD1* codifica para uma enzima fosfodiesterase que atua como componente chave de várias vias de sinalização e metabolismo, participando de várias funções fisiológicas celulares, como: tráfico intracelular de proteínas, remodelação do citoesqueleto, remodelação de membranas e proliferação celular (Ponting, Kerr, 1996). Possui baixa atividade basal *in vitro* e é ativada por pequenas proteínas G (*ARF, Rho* e *Rac*) e proteína quinase C (Hammond et al., 1997; Colley et al., 1997). *PLD1* tem sido vinculado à migração celular de células não transformadas (Kim et al., 2006) e pode ter função semelhantes em alguns tipos de células cancerígenas, pois sua ativação desempenha um papel vital na formação do citoesqueleto de actina que é um elemento chave para a migração celular e a invasão tumoral (Cross et al., 1996). Estudos observaram que existe anormalidades na expressão e atividade do *PLD* em

muitas metástases de câncer humano (Foster, Xu, 2003; Gomez-Cambronero, 2014). O *PLD1* foi regulado positivamente em vários tipos de metástase de câncer humano, incluindo carcinoma de células escamosas do pulmão, carcinoma invasivo da mama (Noh et al., 2000; Uchida et al., 1997), carcinoma endometrioide do corpo uterino, carcinoma de bexiga, estômago (Uchida et al., 1999), carcinoma renal (Zhao et al., 2000), carcinoma hepático e cistadenocarcinoma seroso ovariano. Nas células cancerígenas do ovário, o *PLD* mostrou-se essencial para a indução agonista da produção de ácido lisofosfatídico e promoção da motilidade, crescimento e proliferação celular (Luquain et al., 2003). Quando a atividade de *PLD1* é anulada ocorre a diminuição da motilidade celular diminuindo assim o processo oncogênico (Mor et al., 2009).

O *CAV1* codifica para proteínas estruturais usadas pelas células para formar caveolas que são encontradas em muitos tipos de células como: fibroblastos, adipócitos, células endoteliais, pneumócitos tipo I, células epiteliais e células musculares lisas e estriadas. As caveolas são importantes tanto na transdução normal de sinal quanto na patogênese de várias doenças humanas, como o câncer (Razani et al., 2001). Um grande conjunto de evidências sugere que o *CAV1* é um suposto supressor de tumor, interage e inativa inúmeras moléculas de sinalização ao longo das vias de sobrevivência/proliferação e apontam que a expressão de *CAV1* pode sensibilizar as células para a apoptose sinalizando para a morte celular (Liu et al., 2001). Recentemente, a localização cromossômica do gene *CAV1* foi mapeada e identificou-se encontra-se em uma região comumente excluída em uma variedade de cânceres humanos, dentre eles: carcinomas de mama, cólon, rim, próstata, ovário, cabeça e pescoço. Esses achados levaram à hipótese de que essa região codifica um novo gene supressor tumoral (Engelman et al, 1998a). Além disso, os níveis de mRNA e proteína de *CAV1* são regulados negativamente durante a transformação celular de células NIH 3T3 cultivadas, em modelos de camundongos transgênicos de câncer de mama e em linhagens celulares derivadas de câncer de mama humano (Engelman et al., 1997; Engelman et al., 1998b; Lee et al., 1998; Sager et al., 1994). A expressão de *CAV1* em células NIH 3T3 transformadas ou llinhagens celulares derivadas de câncer de mama humano suprime o fenótipo transformado e o crescimento independente da ancoragem em ágar é cessado; (Engelman et al., 1997; Lee et al., 1998). A regulação negativa da expressão de *CAV1* (por uma abordagem antissense baseada em vetor) promove o crescimento celular independente de ancoragem no ágar, a tumorigênese em camundongos nus e super-ativa a cascata p42 / 44 MAPquinase em células NIH 3T3 (Galbiati et al., 1998). É importante ressaltar que a transformação induzida pela regulação negativa de *CAV1* é revertida quando os níveis de proteína CAV1 reetorrnam ao normal pela perda do vetor anti-sense de *CAV1*. Observamos a diminuição da expressão do gene *CAV1* em mulheres com endometriose, sugerindo que a ausência de CAV1 pode estar relacionada a proliferação de células endometriais na cavidade uterina.

A análise das interações no cluster gênico que inclui os genes *RHOB*, *CAV1* e *PLD1* com as seqüências de *Homo sapiens* (Figura 3 do artigo) demonstraram a interação direta entre o gene *CAV1* e o gene *PLD1*, reforçando o seu papel na migração e progressão celular. O gene *CAV1* tem uma forte relação com a proteína transportadora de esterol 2 (*SCP2*), caveolin-2 (*CAV2*) e citocromo b5 redutase (*CYB5R3*) que são genes envolvidos no metabolismo lipídico, controle do crescimento celular e apoptose (Martin-Montalvo et al., 2016; Fujimoto et al., 2001). O gene *RHOB* tem uma interação próxima com o canal de cátion potencial do receptor transitório (*TRPC1*), o fator de troca de nucleotídeos guanina RHO 3 (*ARHGEF3)* e a proteína 2 de ligação à rodofilina *Rho GTPase* (*RHPN2*), ambos da família *Rho*, diretamente relacionados à migração celular (Ridley et al. 1999). O gene *PLD1* também possui interação com a proteína adaptadora de proliferação e apoptose 15 (*PEA15*) (Viparelli et al., 2008). A análise multiparamétricas dos genes apresentam uma visão geral da intereação desses genes e apresenta as interações celulares possíveis na endometriose, desde os pontos

moleculares do metabolismo lipídico até as funções celulares como o processo de migração.

Além disso, mesmo os genes que não apresentaram expressão estatisticamente significante ($p > 0,05$) quando comparados ao grupo controle, podem ter papel relevante na endometriose, já que apresentaram *fold changes* maiores e menores do que 2 e -2 e poderiam demonstrar significância estatística em estudos com maior número de pacientes. Dentre esses genes estariam os genes que codificam para as metaloproteinases e o VEGF, por exemplo.

Os resultados corroboram que a endometriose é uma doença de gênese multifatorial sendo influenciada por fatores genéticos, endócrinos, imunológicos e ambientais (Ilie I, Ilie R, 2013).

5. CONCLUSÃO

No presente estudo, observamos a expressão diminuída do gene *CAV1*, um supressor tumoral, e aumentada dos genes *RHOB* e *PLD1*, envolvidos na migração e progressão celular, nas células endometriais primárias derivadas do endométrio de mulheres com endometriose profunda. Diante disso, sugerimos que esses genes desempenham um papel importante no estabelecimento e progressão da endometriose.

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ANEXOS

Anexo 1 - Resultado do ensaio RT-PCR

Biological Group Name	Sample Name	Target Name	CT	CT Mean	Adjusted CT Mean	ΔCT Mean	ΔCT SE	RQ	P-Value
Controle	Controle 1	PPIA-Hs99999904_m1	22,968	22,989	22,989	-2,910			1,000
Controle	Controle 2	IGF1R-Hs00609566_m1	28,459	28,900	28,900	3,001	0,267	1,000	1,000
Controle	Controle 1	ACTB-Hs01060665_g1	20,582	21,637	21,637	-4,262	0,203	1,000	1,000
Controle	Controle 3	GAPDH-Hs02758991_g1	22,470	23,035	23,035			1,000	
Controle	Controle 4	ITGB2-Hs00164957_m1	36,024	34,390	34,390	8,779	1,149	1,000	1,000
Controle	Controle 5	MSN-Hs00741306_mH	28,991	25,928	25,928	0,029	0,321	1,000	1,000
Controle	Controle 1	MMP2-Hs01548727_m1	25,277	25,091	25,091	-0,808	0,374	1,000	1,000
Controle	Controle 1	MAPK1-Hs01046830_m1	27,865	28,243	28,243	2,345	0,233	1,000	1,000
Controle	Controle 3	UBC-Hs00824723_m1	22,676	23,659	23,659	-2,240	0,220	1,000	1,000
Controle	Controle 6	PIK3CA-Hs00907957_m1	31,957	30,826	30,826	4,928	0,258	1,000	1,000
Controle	Controle 1	PLD1-Hs00160118_m1	31,716	31,054	31,054	5,155	0,392	1,000	1,000
Controle	Controle 7	CTTN-Hs01124225_m1	26,482	27,861	27,861	1,962	0,395	1,000	1,000
Controle	Controle 1	PRKCA-Hs00925193_m1	27,340	27,649	27,649	1,751	0,224	1,000	1,000
Controle	Controle 5	ACTR2-Hs00855199_g1	32,483	29,834	29,834	3,936	0,465	1,000	1,000
Controle	Controle 3	PLAUR-Hs00958880_m1	26,973	27,659	27,659	1,761	0,402	1,000	1,000
Controle	Controle 2	ITGB2-Hs00164957_m1	34,284	34,390	34,390	8,779	1,149	1,000	1,000
Controle	Controle 4	B2M-Hs00984230_m1	22,368	22,655	22,655	-3,243	0,337	1,000	1,000
Controle	Controle 6	PLD1-Hs00160118_m1	30,933	31,054	31,054	5,155	0,392	1,000	1,000
Controle	Controle 7	PXN-Hs01104424_m1	25,970	27,413	27,413	1,514	0,312	1,000	1,000
Controle	Controle 3	RASA1-Hs00243115_m1	29,562	30,354	30,354	4,455	0,308	1,000	1,000
Controle	Controle 4	SRC-Hs01082246_m1	29,878	29,917	29,917	4,019	0,273	1,000	1,000
Controle	Controle 6	RHO-Hs00892431_m1	Undetermined					1,000	
Controle	Controle 3	TLN1-Hs00196775_m1	25,111	26,714	26,714	0,815	0,223	1,000	1,000
Controle	Controle 1	WIPF1-Hs00277097_m1	28,675	29,321	29,321	3,423	0,184	1,000	1,000
Controle	Controle 5	UBC-Hs00824723_m1	26,388	23,659	23,659	-2,240	0,220	1,000	1,000
Controle	Controle 5	MYH10-Hs00992055_m1	28,348	27,253	27,253	1,354	0,416	1,000	1,000
Controle	Controle 1	RAC1-Hs01902432_s1	30,888	30,495	30,495	4,597	0,544	1,000	1,000

Controle	Controle 5	GAPDH-Hs02758991_g1	24,856	23,035	23,035			1,000	
Controle	Controle 6	RASA1-Hs00243115_m1	31,234	30,354	30,354	4,455	0,308	1,000	1,000
Controle	Controle 2	SRC-Hs01082246_m1	29,309	29,917	29,917	4,019	0,273	1,000	1,000
Controle	Controle 1	EGF-Hs01099999_m1	35,797	35,094	35,094	9,195	0,897	1,000	1,000
Controle	Controle 3	VEGFA-Hs00900055_m1	26,194	27,652	27,652	1,753	0,380	1,000	1,000
Controle	Controle 4	EGFR-Hs01076078_m1	30,283	29,439	29,439	3,540	0,390	1,000	1,000
Controle	Controle 1	RHOC-Hs00747110_s1	27,144	26,995	26,995	1,096	0,265	1,000	1,000
Controle	Controle 1	SRC-Hs01082246_m1	29,603	29,917	29,917	4,019	0,273	1,000	1,000
Controle	Controle 6	PTK2-Hs01056457_m1	28,987	28,062	28,062	2,164	0,247	1,000	1,000
Controle	Controle 5	PTK2B-Hs00169444_m1	35,461	34,141	34,141	8,242	0,468	1,000	1,000
Controle	Controle 1	POLR2A-Hs00172187_m1	27,467	28,569	28,569	2,670	0,247	1,000	1,000
Controle	Controle 1	ITGB1-Hs00559595_m1	24,857	25,395	25,395	-0,503	0,367	1,000	1,000
Controle	Controle 7	PTK2B-Hs00169444_m1	32,571	34,141	34,141	8,242	0,468	1,000	1,000
Controle	Controle 4	RPLP0-Hs99999902_m1	22,238	23,498	23,498	-2,400	0,285	1,000	1,000
Controle	Controle 6	POLR2A-Hs00172187_m1	29,939	28,569	28,569	2,670	0,247	1,000	1,000
Controle	Controle 3	CTTN-Hs01124225_m1	25,939	27,861	27,861	1,962	0,395	1,000	1,000
Controle	Controle 3	SVIL-Hs00931022_m1	32,850	32,291	32,291	6,393	0,499	1,000	1,000
Controle	Controle 7	VASP-Hs01100128_m1	26,048	26,600	26,600	0,701	0,222	1,000	1,000
Controle	Controle 3	PGK1-Hs99999906_m1	24,961	25,489	25,489	-0,409	0,099	1,000	1,000
Controle	Controle 7	GAPDH-Hs02758991_g1	22,876	23,035	23,035			1,000	
Controle	Controle 3	MYH10-Hs00992055_m1	25,145	27,253	27,253	1,354	0,416	1,000	1,000
Controle	Controle 6	IPO8-Hs00183533_m1	30,264	28,763	28,763				
Controle	Controle 6	WIPF1-Hs00277097_m1	30,882	29,321	29,321	3,423	0,184	1,000	1,000
Controle	Controle 7	BAIAP2-Hs00170734_m1	29,213	30,507	30,507	4,608	0,378	1,000	1,000
Controle	Controle 7	ACTN3-Hs00153812_m1	Undetermined					1,000	
Controle	Controle 1	CRK-Hs00180418_m1	29,178	28,562	28,562	2,663	0,370	1,000	1,000
Controle	Controle 4	RHOB-Hs03676562_s1	27,693	28,326	28,326	2,427	0,306	1,000	1,000
Controle	Controle 1	HPRT1-Hs02800695_m1	28,954	30,067	30,067	4,168	0,148	1,000	1,000
Controle	Controle 3	RHO-Hs00892431_m1	Undetermined					1,000	
Controle	Controle 4	MYH10-Hs00992055_m1	28,435	27,253	27,253	1,354	0,416	1,000	1,000
Controle	Controle 6	PLAUR-Hs00958880_m1	28,681	27,659	27,659	1,761	0,402	1,000	1,000

Controle	Controle 1	UBC-Hs00824723_m1	23,177	23,659	23,659	-2,240	0,220	1,000	1,000
Controle	Controle 1	MSN-Hs00741306_mH	24,959	25,928	25,928	0,029	0,321	1,000	1,000
Controle	Controle 1	MYLK-Hs00364926_m1	27,825	26,494	26,494	0,596	0,463	1,000	1,000
Controle	Controle 6	ITGB3-Hs01001469_m1	28,497	28,031	28,031	2,133	0,371	1,000	1,000
Controle	Controle 6	EGF-Hs01099999_m1	37,594	35,094	35,094	9,195	0,897	1,000	1,000
Controle	Controle 3	B2M-Hs00984230_m1	22,969	22,655	22,655	-3,243	0,337	1,000	1,000
Controle	Controle 1	TGFB1-Hs00998133_m1	28,500	29,161	29,161	3,262	0,321	1,000	1,000
Controle	Controle 3	WASL-Hs00187614_m1	29,496	30,459	30,459	4,560	0,300	1,000	1,000
Controle	Controle 7	TIMP2-Hs00234278_m1	23,259	24,452	24,452	-1,447	0,328	1,000	1,000
Controle	Controle 1	PFN1-Hs00748915_s1	28,963	27,765	27,765	1,867	0,381	1,000	1,000
Controle	Controle 3	CAPN2-Hs00965097_m1	24,148	25,805	25,805	-0,094	0,363	1,000	1,000
Controle	Controle 2	RASA1-Hs00243115_m1	29,343	30,354	30,354	4,455	0,308	1,000	1,000
Controle	Controle 5	PPIA-Hs99999904_m1	24,081	22,989	22,989	-2,910			1,000
Controle	Controle 6	PRKCA-Hs00925193_m1	29,535	27,649	27,649	1,751	0,224	1,000	1,000
Controle	Controle 4	RASA1-Hs00243115_m1	29,966	30,354	30,354	4,455	0,308	1,000	1,000
Controle	Controle 4	PAK4-Hs01100061_m1	28,954	29,302	29,302	3,403	0,238	1,000	1,000
Controle	Controle 1	AKT1-Hs00178289_m1	27,576	27,153	27,153	1,254	0,384	1,000	1,000
Controle	Controle 5	PXN-Hs01104424_m1	30,126	27,413	27,413	1,514	0,312	1,000	1,000
Controle	Controle 2	CAPN1-Hs00559804_m1	26,678	27,479	27,479	1,580	0,306	1,000	1,000
Controle	Controle 2	PAK1-Hs00945621_m1	28,497	29,552	29,552	3,653	0,392	1,000	1,000
Controle	Controle 1	RHO-Hs00892431_m1	Undetermined					1,000	
Controle	Controle 1	PIK3CA-Hs00907957_m1	30,469	30,826	30,826	4,928	0,258	1,000	1,000
Controle	Controle 3	RDX-Hs00988414_g1	27,521	27,851	27,851	1,953	0,148	1,000	1,000
Controle	Controle 3	RND3-Hs01003594_m1	25,380	26,534	26,534	0,635	0,411	1,000	1,000
Controle	Controle 1	RPLP0-Hs99999902_m1	24,181	23,498	23,498	-2,400	0,285	1,000	1,000
Controle	Controle 1	ACTN4-Hs00245168_m1	25,186	25,193	25,193	-0,706	0,387	1,000	1,000
Controle	Controle 7	RHOA-Hs00357608_m1	22,957	23,911	23,911	-1,987	0,200	1,000	1,000
Controle	Controle 5	MYLK-Hs00364926_m1	27,967	26,494	26,494	0,596	0,463	1,000	1,000
Controle	Controle 6	MYL9-Hs00697086_m1	23,288	22,232	22,232	-3,667	0,451	1,000	1,000
Controle	Controle 3	PRKCA-Hs00925193_m1	26,149	27,649	27,649	1,751	0,224	1,000	1,000
Controle	Controle 6	MET-Hs01565584_m1	31,350	29,618	29,618	3,719	0,240	1,000	1,000

Controle	Controle 6	ACTR3-Hs00828586_m1	27,594	26,281	26,281	0,382	0,275	1,000	1,000
Controle	Controle 5	18S-Hs99999901_s1	12,122	11,192	11,192	-14,706	0,469	1,000	1,000
Controle	Controle 2	PFN1-Hs00748915_s1	26,706	27,765	27,765	1,867	0,381	1,000	1,000
Controle	Controle 2	ARF6-Hs01922781_g1	29,376	31,568	31,568	5,670	0,664	1,000	1,000
Controle	Controle 5	TGFB1-Hs00998133_m1	31,465	29,161	29,161	3,262	0,321	1,000	1,000
Controle	Controle 4	PLD1-Hs00160118_m1	30,758	31,054	31,054	5,155	0,392	1,000	1,000
Controle	Controle 5	ACTN3-Hs00153812_m1	Undetermined					1,000	
Controle	Controle 3	PTK2-Hs01056457_m1	27,147	28,062	28,062	2,164	0,247	1,000	1,000
Controle	Controle 4	PTK2B-Hs00169444_m1	34,998	34,141	34,141	8,242	0,468	1,000	1,000
Controle	Controle 4	SH3PXD2A-Hs00206037_m1	31,985	31,022	31,022	5,124	0,349	1,000	1,000
Controle	Controle 7	CSF1-Hs00174164_m1	29,169	30,704	30,704	4,805	0,491	1,000	1,000
Controle	Controle 5	ACTR3-Hs00828586_m1	27,656	26,281	26,281	0,382	0,275	1,000	1,000
Controle	Controle 2	PTPN1-Hs00942477_m1	28,578	29,136	29,136	3,237	0,259	1,000	1,000
Controle	Controle 1	ARHGEF7-Hs00388776_m1	30,370	30,198	30,198	4,300	0,387	1,000	1,000
Controle	Controle 4	CFL1-Hs02621564_g1	25,536	24,952	24,952	-0,946	0,391	1,000	1,000
Controle	Controle 1	RND3-Hs01003594_m1	27,726	26,534	26,534	0,635	0,411	1,000	1,000
Controle	Controle 4	PPIA-Hs99999904_m1	22,435	22,989	22,989	-2,910			1,000
Controle	Controle 4	VIM-Hs00185584_m1	21,993	22,102	22,102	-3,797	0,240	1,000	1,000
Controle	Controle 4	CAPN1-Hs00559804_m1	27,475	27,479	27,479	1,580	0,306	1,000	1,000
Controle	Controle 4	WASL-Hs00187614_m1	30,245	30,459	30,459	4,560	0,300	1,000	1,000
Controle	Controle 1	PAK4-Hs01100061_m1	28,614	29,302	29,302	3,403	0,238	1,000	1,000
Controle	Controle 4	RAC1-Hs01902432_s1	30,729	30,495	30,495	4,597	0,544	1,000	1,000
Controle	Controle 4	ARHGDIA-Hs00366348_g1	26,654	26,287	26,287	0,388	0,276	1,000	1,000
Controle	Controle 4	PTPN1-Hs00942477_m1	29,236	29,136	29,136	3,237	0,259	1,000	1,000
Controle	Controle 2	RHOA-Hs00357608_m1	23,396	23,911	23,911	-1,987	0,200	1,000	1,000
Controle	Controle 6	BCAR1-Hs01547079_m1	29,369	28,404	28,404	2,505	0,323	1,000	1,000
Controle	Controle 7	18S-Hs99999901_s1	9,833	11,192	11,192	-14,706	0,469	1,000	1,000
Controle	Controle 1	CFL1-Hs02621564_g1	25,839	24,952	24,952	-0,946	0,391	1,000	1,000
Controle	Controle 1	ARHGDIA-Hs00366348_g1	25,392	26,287	26,287	0,388	0,276	1,000	1,000
Controle	Controle 4	TIMP2-Hs00234278_m1	24,300	24,452	24,452	-1,447	0,328	1,000	1,000
Controle	Controle 2	WASF1-Hs01591751_m1	30,795	32,100	32,100	6,201	0,270	1,000	1,000

Controle	Controle 2	ROCK1-Hs01127699_m1	27,218	28,267	28,267	2,368	0,157	1,000	1,000
Controle	Controle 2	ACTR2-Hs00855199_g1	28,113	29,834	29,834	3,936	0,465	1,000	1,000
Controle	Controle 7	EZR-Hs00931653_m1	24,785	26,075	26,075	0,176	0,232	1,000	1,000
Controle	Controle 2	FGF2-Hs00266645_m1	27,196	28,221	28,221	2,323	0,200	1,000	1,000
Controle	Controle 6	18S-Hs99999901_s1	11,796	11,192	11,192	-14,706	0,469	1,000	1,000
Controle	Controle 6	ACTR2-Hs00855199_g1	30,847	29,834	29,834	3,936	0,465	1,000	1,000
Controle	Controle 3	SH3PXD2A-Hs00206037_m1	29,870	31,022	31,022	5,124	0,349	1,000	1,000
Controle	Controle 7	ITGB2-Hs00164957_m1	30,508	34,390	34,390	8,779	1,149	1,000	1,000
Controle	Controle 6	WASF2-Hs00819075_gH	32,130	30,884	30,884	4,985	0,402	1,000	1,000
Controle	Controle 4	MMP14-Hs01037003_g1	26,165	25,952	25,952	0,053	0,424	1,000	1,000
Controle	Controle 7	RDX-Hs00988414_g1	26,770	27,851	27,851	1,953	0,148	1,000	1,000
Controle	Controle 5	PLD1-Hs00160118_m1	33,915	31,054	31,054	5,155	0,392	1,000	1,000
Controle	Controle 5	STAT3-Hs00374280_m1	30,259	28,405	28,405	2,506	0,224	1,000	1,000
Controle	Controle 2	ILK-Hs01101168_g1	24,184	24,967	24,967	-0,931	0,296	1,000	1,000
Controle	Controle 2	CSF1-Hs00174164_m1	30,737	30,704	30,704	4,805	0,491	1,000	1,000
Controle	Controle 1	MYL9-Hs00697086_m1	23,053	22,232	22,232	-3,667	0,451	1,000	1,000
Controle	Controle 2	EZR-Hs00931653_m1	24,802	26,075	26,075	0,176	0,232	1,000	1,000
Controle	Controle 2	DIAPH1-Hs00946556_m1	28,008	29,431	29,431	3,532	0,304	1,000	1,000
Controle	Controle 4	WASF1-Hs01591751_m1	31,749	32,100	32,100	6,201	0,270	1,000	1,000
Controle	Controle 5	TIMP2-Hs00234278_m1	26,149	24,452	24,452	-1,447	0,328	1,000	1,000
Controle	Controle 3	DPP4-Hs00175210_m1	27,913	31,114	31,114	5,216	0,668	1,000	1,000
Controle	Controle 7	PGK1-Hs99999906_m1	24,732	25,489	25,489	-0,409	0,099	1,000	1,000
Controle	Controle 4	ACTR3-Hs00828586_m1	27,024	26,281	26,281	0,382	0,275	1,000	1,000
Controle	Controle 7	RND3-Hs01003594_m1	25,037	26,534	26,534	0,635	0,411	1,000	1,000
Controle	Controle 4	TGFB1-Hs00998133_m1	27,764	29,161	29,161	3,262	0,321	1,000	1,000
Controle	Controle 1	IPO8-Hs00183533_m1	28,509	28,763	28,763				
Controle	Controle 7	MYH10-Hs00992055_m1	26,904	27,253	27,253	1,354	0,416	1,000	1,000
Controle	Controle 3	ACTR2-Hs00855199_g1	28,105	29,834	29,834	3,936	0,465	1,000	1,000
Controle	Controle 5	MYH9-Hs00159522_m1	25,000	23,346	23,346	-2,553	0,440	1,000	1,000
Controle	Controle 3	ACTN1-Hs00998100_m1	22,826	24,328	24,328	-1,571	0,312	1,000	1,000
Controle	Controle 7	RASA1-Hs00243115_m1	28,871	30,354	30,354	4,455	0,308	1,000	1,000

Controle	Controle 1	B2M-Hs00984230_m1	22,927	22,655	22,655	-3,243	0,337	1,000	1,000
Controle	Controle 4	MYL9-Hs00697086_m1	23,081	22,232	22,232	-3,667	0,451	1,000	1,000
Controle	Controle 6	PFN1-Hs00748915_s1	30,217	27,765	27,765	1,867	0,381	1,000	1,000
Controle	Controle 3	ITGB2-Hs00164957_m1	35,541	34,390	34,390	8,779	1,149	1,000	1,000
Controle	Controle 7	PTPN1-Hs00942477_m1	28,261	29,136	29,136	3,237	0,259	1,000	1,000
Controle	Controle 2	POLR2A-Hs00172187_m1	28,305	28,569	28,569	2,670	0,247	1,000	1,000
Controle	Controle 5	DPP4-Hs00175210_m1	32,590	31,114	31,114	5,216	0,668	1,000	1,000
Controle	Controle 2	CDC42-Hs00918044_g1	25,943	27,679	27,679	1,781	0,351	1,000	1,000
Controle	Controle 6	MSN-Hs00741306_mH	27,021	25,928	25,928	0,029	0,321	1,000	1,000
Controle	Controle 4	ILK-Hs01101168_g1	25,379	24,967	24,967	-0,931	0,296	1,000	1,000
Controle	Controle 2	PLD1-Hs00160118_m1	29,564	31,054	31,054	5,155	0,392	1,000	1,000
Controle	Controle 6	GUSB-Hs99999908_m1	30,325	29,146	29,146	3,247	0,155	1,000	1,000
Controle	Controle 3	RHOA-Hs00357608_m1	23,149	23,911	23,911	-1,987	0,200	1,000	1,000
Controle	Controle 5	HGF-Hs00300159_m1	36,301	34,011	34,011	8,112	0,847	1,000	1,000
Controle	Controle 1	STAT3-Hs00374280_m1	28,358	28,405	28,405	2,506	0,224	1,000	1,000
Controle	Controle 2	PIK3CA-Hs00907957_m1	29,955	30,826	30,826	4,928	0,258	1,000	1,000
Controle	Controle 2	ITGA4-Hs00168433_m1	28,390	30,228	30,228	4,329	0,299	1,000	1,000
Controle	Controle 7	CAPN1-Hs00559804_m1	26,019	27,479	27,479	1,580	0,306	1,000	1,000
Controle	Controle 5	PIK3CA-Hs00907957_m1	32,669	30,826	30,826	4,928	0,258	1,000	1,000
Controle	Controle 4	IPO8-Hs00183533_m1	27,810	28,763	28,763				
Controle	Controle 1	CSF1-Hs00174164_m1	31,487	30,704	30,704	4,805	0,491	1,000	1,000
Controle	Controle 5	CSF1-Hs00174164_m1	33,377	30,704	30,704	4,805	0,491	1,000	1,000
Controle	Controle 1	PTPN1-Hs00942477_m1	28,352	29,136	29,136	3,237	0,259	1,000	1,000
Controle	Controle 6	CTTN-Hs01124225_m1	29,386	27,861	27,861	1,962	0,395	1,000	1,000
Controle	Controle 4	HGF-Hs00300159_m1	30,846	34,011	34,011	8,112	0,847	1,000	1,000
Controle	Controle 2	TLN1-Hs00196775_m1	26,060	26,714	26,714	0,815	0,223	1,000	1,000
Controle	Controle 2	PTK2B-Hs00169444_m1	33,752	34,141	34,141	8,242	0,468	1,000	1,000
Controle	Controle 7	RHOB-Hs03676562_s1	26,829	28,326	28,326	2,427	0,306	1,000	1,000
Controle	Controle 7	RHOC-Hs00747110_s1	26,160	26,995	26,995	1,096	0,265	1,000	1,000
Controle	Controle 3	MMP14-Hs01037003_g1	24,434	25,952	25,952	0,053	0,424	1,000	1,000
Controle	Controle 6	MAPK1-Hs01046830_m1	29,704	28,243	28,243	2,345	0,233	1,000	1,000

Controle	Controle 5	TLN1-Hs00196775_m1	28,906	26,714	26,714	0,815	0,223	1,000	1,000
Controle	Controle 5	RHOB-Hs03676562_s1	30,705	28,326	28,326	2,427	0,306	1,000	1,000
Controle	Controle 6	WASF1-Hs01591751_m1	33,903	32,100	32,100	6,201	0,270	1,000	1,000
Controle	Controle 5	SVIL-Hs00931022_m1	34,725	32,291	32,291	6,393	0,499	1,000	1,000
Controle	Controle 6	MYH10-Hs00992055_m1	28,825	27,253	27,253	1,354	0,416	1,000	1,000
Controle	Controle 6	RAC1-Hs01902432_s1	30,905	30,495	30,495	4,597	0,544	1,000	1,000
Controle	Controle 7	RHO-Hs00892431_m1	Undetermined					1,000	
Controle	Controle 4	PTEN-Hs02621230_s1	32,697	32,290	32,290	6,392	0,473	1,000	1,000
Controle	Controle 7	CFL1-Hs02621564_g1	23,650	24,952	24,952	-0,946	0,391	1,000	1,000
Controle	Controle 2	ARHGDIA-Hs00366348_g1	25,475	26,287	26,287	0,388	0,276	1,000	1,000
Controle	Controle 4	PTK2-Hs01056457_m1	28,164	28,062	28,062	2,164	0,247	1,000	1,000
Controle	Controle 4	MYH9-Hs00159522_m1	23,828	23,346	23,346	-2,553	0,440	1,000	1,000
Controle	Controle 4	GAPDH-Hs02758991_g1	22,337	23,035	23,035			1,000	
Controle	Controle 7	PTK2-Hs01056457_m1	26,867	28,062	28,062	2,164	0,247	1,000	1,000
Controle	Controle 1	TIMP2-Hs00234278_m1	25,082	24,452	24,452	-1,447	0,328	1,000	1,000
Controle	Controle 4	EZR-Hs00931653_m1	26,188	26,075	26,075	0,176	0,232	1,000	1,000
Controle	Controle 5	FGF2-Hs00266645_m1	30,029	28,221	28,221	2,323	0,200	1,000	1,000
Controle	Controle 3	EGFR-Hs01076078_m1	28,291	29,439	29,439	3,540	0,390	1,000	1,000
Controle	Controle 1	LIMK1-Hs00242728_m1	30,505	30,835	30,835	4,936	0,337	1,000	1,000
Controle	Controle 3	PTPN1-Hs00942477_m1	27,876	29,136	29,136	3,237	0,259	1,000	1,000
Controle	Controle 3	PPIA-Hs99999904_m1	22,640	22,989	22,989	-2,910			1,000
Controle	Controle 5	ACTN1-Hs00998100_m1	26,072	24,328	24,328	-1,571	0,312	1,000	1,000
Controle	Controle 6	CAPN2-Hs00965097_m1	26,981	25,805	25,805	-0,094	0,363	1,000	1,000
Controle	Controle 5	WASL-Hs00187614_m1	33,168	30,459	30,459	4,560	0,300	1,000	1,000
Controle	Controle 4	UBC-Hs00824723_m1	23,099	23,659	23,659	-2,240	0,220	1,000	1,000
Controle	Controle 2	MSN-Hs00741306_mH	24,996	25,928	25,928	0,029	0,321	1,000	1,000
Controle	Controle 2	HPRT1-Hs02800695_m1	28,727	30,067	30,067	4,168	0,148	1,000	1,000
Controle	Controle 7	WIPF1-Hs00277097_m1	29,014	29,321	29,321	3,423	0,184	1,000	1,000
Controle	Controle 7	HGF-Hs00300159_m1	34,429	34,011	34,011	8,112	0,847	1,000	1,000
Controle	Controle 3	FGF2-Hs00266645_m1	27,339	28,221	28,221	2,323	0,200	1,000	1,000
Controle	Controle 7	MAPK1-Hs01046830_m1	26,835	28,243	28,243	2,345	0,233	1,000	1,000

Controle	Controle 3	CAV1-Hs00971716_m1	23,437	24,397	24,397	-1,502	0,309	1,000	1,000
Controle	Controle 5	ROCK1-Hs01127699_m1	30,372	28,267	28,267	2,368	0,157	1,000	1,000
Controle	Controle 5	EGF-Hs01099999_m1	33,721	35,094	35,094	9,195	0,897	1,000	1,000
Controle	Controle 3	MYLK-Hs00364926_m1	24,703	26,494	26,494	0,596	0,463	1,000	1,000
Controle	Controle 3	STAT3-Hs00374280_m1	27,432	28,405	28,405	2,506	0,224	1,000	1,000
Controle	Controle 6	ITGA4-Hs00168433_m1	32,597	30,228	30,228	4,329	0,299	1,000	1,000
Controle	Controle 2	ENAH-Hs00403109_m1	27,814	29,043	29,043	3,144	0,379	1,000	1,000
Controle	Controle 5	BAIAP2-Hs00170734_m1	32,497	30,507	30,507	4,608	0,378	1,000	1,000
Controle	Controle 5	AKT1-Hs00178289_m1	28,440	27,153	27,153	1,254	0,384	1,000	1,000
Controle	Controle 5	RDX-Hs00988414_g1	29,965	27,851	27,851	1,953	0,148	1,000	1,000
Controle	Controle 7	CDC42-Hs00918044_g1	26,149	27,679	27,679	1,781	0,351	1,000	1,000
Controle	Controle 5	POLR2A-Hs00172187_m1	31,008	28,569	28,569	2,670	0,247	1,000	1,000
Controle	Controle 2	ACTB-Hs01060665_g1	20,748	21,637	21,637	-4,262	0,203	1,000	1,000
Controle	Controle 5	IGF1R-Hs00609566_m1	30,298	28,900	28,900	3,001	0,267	1,000	1,000
Controle	Controle 3	SRC-Hs01082246_m1	28,137	29,917	29,917	4,019	0,273	1,000	1,000
Controle	Controle 2	VIM-Hs00185584_m1	20,986	22,102	22,102	-3,797	0,240	1,000	1,000
Controle	Controle 3	LIMK1-Hs00242728_m1	28,991	30,835	30,835	4,936	0,337	1,000	1,000
Controle	Controle 6	WASL-Hs00187614_m1	31,088	30,459	30,459	4,560	0,300	1,000	1,000
Controle	Controle 4	VEGFA-Hs00900055_m1	28,150	27,652	27,652	1,753	0,380	1,000	1,000
Controle	Controle 6	ACTN3-Hs00153812_m1	Undetermined					1,000	
Controle	Controle 6	GAPDH-Hs02758991_g1	24,885	23,035	23,035			1,000	
Controle	Controle 7	CAPN2-Hs00965097_m1	24,586	25,805	25,805	-0,094	0,363	1,000	1,000
Controle	Controle 1	ENAH-Hs00403109_m1	28,945	29,043	29,043	3,144	0,379	1,000	1,000
Controle	Controle 3	CFL1-Hs02621564_g1	23,234	24,952	24,952	-0,946	0,391	1,000	1,000
Controle	Controle 4	RHOA-Hs00357608_m1	23,637	23,911	23,911	-1,987	0,200	1,000	1,000
Controle	Controle 5	RAC1-Hs01902432_s1	33,538	30,495	30,495	4,597	0,544	1,000	1,000
Controle	Controle 7	WASF2-Hs00819075_gH	28,968	30,884	30,884	4,985	0,402	1,000	1,000
Controle	Controle 5	WIPF1-Hs00277097_m1	31,593	29,321	29,321	3,423	0,184	1,000	1,000
Controle	Controle 5	EZR-Hs00931653_m1	28,057	26,075	26,075	0,176	0,232	1,000	1,000
Controle	Controle 3	DIAPH1-Hs00946556_m1	28,057	29,431	29,431	3,532	0,304	1,000	1,000
Controle	Controle 1	VEGFA-Hs00900055_m1	28,101	27,652	27,652	1,753	0,380	1,000	1,000

Controle	Controle 5	MMP14-Hs01037003_g1	28,172	25,952	25,952	0,053	0,424	1,000	1,000
Controle	Controle 6	VCL-Hs00419715_m1	25,823	24,760	24,760	-1,138	0,303	1,000	1,000
Controle	Controle 6	FAP-Hs00990806_m1	29,314	28,051	28,051	2,152	0,570	1,000	1,000
Controle	Controle 2	RHO-Hs00892431_m1	Undetermined					1,000	
Controle	Controle 6	PAK1-Hs00945621_m1	30,079	29,552	29,552	3,653	0,392	1,000	1,000
Controle	Controle 1	RASA1-Hs00243115_m1	30,043	30,354	30,354	4,455	0,308	1,000	1,000
Controle	Controle 7	PAK1-Hs00945621_m1	28,444	29,552	29,552	3,653	0,392	1,000	1,000
Controle	Controle 4	BAIAP2-Hs00170734_m1	31,165	30,507	30,507	4,608	0,378	1,000	1,000
Controle	Controle 7	SRC-Hs01082246_m1	28,989	29,917	29,917	4,019	0,273	1,000	1,000
Controle	Controle 4	ACTN4-Hs00245168_m1	25,980	25,193	25,193	-0,706	0,387	1,000	1,000
Controle	Controle 7	MET-Hs01565584_m1	30,104	29,618	29,618	3,719	0,240	1,000	1,000
Controle	Controle 2	MMP9-Hs00234579_m1	34,434	37,330	37,330	11,719	0,856	1,000	1,000
Controle	Controle 1	BAIAP2-Hs00170734_m1	31,115	30,507	30,507	4,608	0,378	1,000	1,000
Controle	Controle 1	18S-Hs99999901_s1	12,997	11,192	11,192	-14,706	0,469	1,000	1,000
Controle	Controle 5	CDC42-Hs00918044_g1	29,814	27,679	27,679	1,781	0,351	1,000	1,000
Controle	Controle 1	GAPDH-Hs02758991_g1	22,479	23,035	23,035			1,000	
Controle	Controle 7	PTEN-Hs02621230_s1	31,114	32,290	32,290	6,392	0,473	1,000	1,000
Controle	Controle 1	RAC2-Hs01036635_s1	30,149	31,033	31,033	5,134	0,339	1,000	1,000
Controle	Controle 2	CAV1-Hs00971716_m1	22,680	24,397	24,397	-1,502	0,309	1,000	1,000
Controle	Controle 6	ENAH-Hs00403109_m1	30,563	29,043	29,043	3,144	0,379	1,000	1,000
Controle	Controle 4	ITGA4-Hs00168433_m1	30,599	30,228	30,228	4,329	0,299	1,000	1,000
Controle	Controle 6	ROCK1-Hs01127699_m1	29,577	28,267	28,267	2,368	0,157	1,000	1,000
Controle	Controle 4	ENAH-Hs00403109_m1	29,561	29,043	29,043	3,144	0,379	1,000	1,000
Controle	Controle 7	VIM-Hs00185584_m1	22,238	22,102	22,102	-3,797	0,240	1,000	1,000
Controle	Controle 3	ARF6-Hs01922781_g1	29,495	31,568	31,568	5,670	0,664	1,000	1,000
Controle	Controle 5	PTEN-Hs02621230_s1	34,495	32,290	32,290	6,392	0,473	1,000	1,000
Controle	Controle 7	CRK-Hs00180418_m1	26,448	28,562	28,562	2,663	0,370	1,000	1,000
Controle	Controle 2	RPLP0-Hs99999902_m1	22,133	23,498	23,498	-2,400	0,285	1,000	1,000
Controle	Controle 7	UBC-Hs00824723_m1	22,423	23,659	23,659	-2,240	0,220	1,000	1,000
Controle	Controle 4	VCL-Hs00419715_m1	24,972	24,760	24,760	-1,138	0,303	1,000	1,000
Controle	Controle 5	DIAPH1-Hs00946556_m1	31,916	29,431	29,431	3,532	0,304	1,000	1,000

Controle	Controle 6	ITGB2-Hs00164957_m1	33,014	34,390	34,390	8,779	1,149	1,000	1,000
Controle	Controle 5	VASP-Hs01100128_m1	27,742	26,600	26,600	0,701	0,222	1,000	1,000
Controle	Controle 6	ACTN1-Hs00998100_m1	25,229	24,328	24,328	-1,571	0,312	1,000	1,000
Controle	Controle 1	ACTN3-Hs00153812_m1	Undetermined					1,000	
Controle	Controle 4	CAV1-Hs00971716_m1	24,817	24,397	24,397	-1,502	0,309	1,000	1,000
Controle	Controle 6	RHOB-Hs03676562_s1	29,166	28,326	28,326	2,427	0,306	1,000	1,000
Controle	Controle 2	ARHGEF7-Hs00388776_m1	29,597	30,198	30,198	4,300	0,387	1,000	1,000
Controle	Controle 6	ARHGEF7-Hs00388776_m1	31,231	30,198	30,198	4,300	0,387	1,000	1,000
Controle	Controle 4	MAPK1-Hs01046830_m1	28,250	28,243	28,243	2,345	0,233	1,000	1,000
Controle	Controle 2	VASP-Hs01100128_m1	25,922	26,600	26,600	0,701	0,222	1,000	1,000
Controle	Controle 3	WASF2-Hs00819075_gH	29,223	30,884	30,884	4,985	0,402	1,000	1,000
Controle	Controle 5	CRK-Hs00180418_m1	31,005	28,562	28,562	2,663	0,370	1,000	1,000
Controle	Controle 6	RHOC-Hs00747110_s1	29,000	26,995	26,995	1,096	0,265	1,000	1,000
Controle	Controle 3	ACTB-Hs01060665_g1	20,962	21,637	21,637	-4,262	0,203	1,000	1,000
Controle	Controle 7	EGF-Hs01099999_m1	35,802	35,094	35,094	9,195	0,897	1,000	1,000
Controle	Controle 4	DPP4-Hs00175210_m1	32,995	31,114	31,114	5,216	0,668	1,000	1,000
Controle	Controle 3	MMP2-Hs01548727_m1	23,702	25,091	25,091	-0,808	0,374	1,000	1,000
Controle	Controle 6	RDX-Hs00988414_g1	29,145	27,851	27,851	1,953	0,148	1,000	1,000
Controle	Controle 4	SVIL-Hs00931022_m1	31,553	32,291	32,291	6,393	0,499	1,000	1,000
Controle	Controle 5	BCAR1-Hs01547079_m1	29,873	28,404	28,404	2,505	0,323	1,000	1,000
Controle	Controle 2	AKT1-Hs00178289_m1	26,313	27,153	27,153	1,254	0,384	1,000	1,000
Controle	Controle 6	RHOA-Hs00357608_m1	25,415	23,911	23,911	-1,987	0,200	1,000	1,000
Controle	Controle 3	EGF-Hs01099999_m1	31,814	35,094	35,094	9,195	0,897	1,000	1,000
Controle	Controle 4	MMP2-Hs01548727_m1	25,431	25,091	25,091	-0,808	0,374	1,000	1,000
Controle	Controle 7	PLAUR-Hs00958880_m1	26,953	27,659	27,659	1,761	0,402	1,000	1,000
Controle	Controle 7	RAC1-Hs01902432_s1	28,289	30,495	30,495	4,597	0,544	1,000	1,000
Controle	Controle 5	PTPN1-Hs00942477_m1	31,370	29,136	29,136	3,237	0,259	1,000	1,000
Controle	Controle 4	RAC2-Hs01036635_s1	30,231	31,033	31,033	5,134	0,339	1,000	1,000
Controle	Controle 5	RHO-Hs00892431_m1	Undetermined					1,000	
Controle	Controle 3	ITGB3-Hs01001469_m1	26,990	28,031	28,031	2,133	0,371	1,000	1,000
Controle	Controle 2	PLCG1-Hs01008225_m1	29,526	29,955	29,955	4,057	0,290	1,000	1,000

Controle	Controle 1	CAPN2-Hs00965097_m1	25,647	25,805	25,805	-0,094	0,363	1,000	1,000
Controle	Controle 4	ACTR2-Hs00855199_g1	30,357	29,834	29,834	3,936	0,465	1,000	1,000
Controle	Controle 1	IGF1-Hs01547656_m1	Undetermined	34,441	34,441	8,113	0,757	1,000	1,000
Controle	Controle 6	TIMP2-Hs00234278_m1	25,249	24,452	24,452	-1,447	0,328	1,000	1,000
Controle	Controle 4	MYLK-Hs00364926_m1	27,090	26,494	26,494	0,596	0,463	1,000	1,000
Controle	Controle 1	CAPN1-Hs00559804_m1	27,636	27,479	27,479	1,580	0,306	1,000	1,000
Controle	Controle 1	PXN-Hs01104424_m1	26,849	27,413	27,413	1,514	0,312	1,000	1,000
Controle	Controle 3	ARHGDIA-Hs00366348_g1	24,866	26,287	26,287	0,388	0,276	1,000	1,000
Controle	Controle 6	PXN-Hs01104424_m1	28,802	27,413	27,413	1,514	0,312	1,000	1,000
Controle	Controle 7	MMP2-Hs01548727_m1	25,019	25,091	25,091	-0,808	0,374	1,000	1,000
Controle	Controle 6	AKT1-Hs00178289_m1	28,351	27,153	27,153	1,254	0,384	1,000	1,000
Controle	Controle 5	MMP9-Hs00234579_m1	Undetermined	37,330	37,330	11,719	0,856	1,000	1,000
Controle	Controle 2	RND3-Hs01003594_m1	25,363	26,534	26,534	0,635	0,411	1,000	1,000
Controle	Controle 3	ENAH-Hs00403109_m1	26,573	29,043	29,043	3,144	0,379	1,000	1,000
Controle	Controle 5	RHOA-Hs00357608_m1	25,031	23,911	23,911	-1,987	0,200	1,000	1,000
Controle	Controle 3	ITGB1-Hs00559595_m1	24,739	25,395	25,395	-0,503	0,367	1,000	1,000
Controle	Controle 1	EZR-Hs00931653_m1	25,554	26,075	26,075	0,176	0,232	1,000	1,000
Controle	Controle 6	ACTN4-Hs00245168_m1	26,270	25,193	25,193	-0,706	0,387	1,000	1,000
Controle	Controle 5	IGF1-Hs01547656_m1	37,063	34,441	34,441	8,113	0,757	1,000	1,000
Controle	Controle 5	CAPN2-Hs00965097_m1	27,389	25,805	25,805	-0,094	0,363	1,000	1,000
Controle	Controle 5	PLCG1-Hs01008225_m1	32,550	29,955	29,955	4,057	0,290	1,000	1,000
Controle	Controle 2	MMP2-Hs01548727_m1	24,605	25,091	25,091	-0,808	0,374	1,000	1,000
Controle	Controle 3	PAK1-Hs00945621_m1	28,440	29,552	29,552	3,653	0,392	1,000	1,000
Controle	Controle 4	POLR2A-Hs00172187_m1	27,944	28,569	28,569	2,670	0,247	1,000	1,000
Controle	Controle 1	MMP14-Hs01037003_g1	24,831	25,952	25,952	0,053	0,424	1,000	1,000
Controle	Controle 7	B2M-Hs00984230_m1	20,893	22,655	22,655	-3,243	0,337	1,000	1,000
Controle	Controle 6	RPLP0-Hs99999902_m1	26,171	23,498	23,498	-2,400	0,285	1,000	1,000
Controle	Controle 3	MYL9-Hs00697086_m1	20,391	22,232	22,232	-3,667	0,451	1,000	1,000
Controle	Controle 5	PRKCA-Hs00925193_m1	29,576	27,649	27,649	1,751	0,224	1,000	1,000
Controle	Controle 4	PLAUR-Hs00958880_m1	28,109	27,659	27,659	1,761	0,402	1,000	1,000
Controle	Controle 3	AKT1-Hs00178289_m1	25,930	27,153	27,153	1,254	0,384	1,000	1,000

Controle	Controle 2	CAPN2-Hs00965097_m1	25,250	25,805	25,805	-0,094	0,363	1,000	1,000
Controle	Controle 2	ACTN1-Hs00998100_m1	23,980	24,328	24,328	-1,571	0,312	1,000	1,000
Controle	Controle 6	VEGFA-Hs00900055_m1	28,024	27,652	27,652	1,753	0,380	1,000	1,000
Controle	Controle 5	FAP-Hs00990806_m1	27,414	28,051	28,051	2,152	0,570	1,000	1,000
Controle	Controle 2	RDX-Hs00988414_g1	27,003	27,851	27,851	1,953	0,148	1,000	1,000
Controle	Controle 3	ACTN4-Hs00245168_m1	23,554	25,193	25,193	-0,706	0,387	1,000	1,000
Controle	Controle 5	ARHGEF7-Hs00388776_m1	32,647	30,198	30,198	4,300	0,387	1,000	1,000
Controle	Controle 6	TGFB1-Hs00998133_m1	30,338	29,161	29,161	3,262	0,321	1,000	1,000
Controle	Controle 3	ITGA4-Hs00168433_m1	29,208	30,228	30,228	4,329	0,299	1,000	1,000
Controle	Controle 5	ARF6-Hs01922781_g1	34,631	31,568	31,568	5,670	0,664	1,000	1,000
Controle	Controle 6	B2M-Hs00984230_m1	23,264	22,655	22,655	-3,243	0,337	1,000	1,000
Controle	Controle 7	WASF1-Hs01591751_m1	31,039	32,100	32,100	6,201	0,270	1,000	1,000
Controle	Controle 4	ARHGEF7-Hs00388776_m1	30,473	30,198	30,198	4,300	0,387	1,000	1,000
Controle	Controle 6	MMP9-Hs00234579_m1	38,431	37,330	37,330	11,719	0,856	1,000	1,000
Controle	Controle 6	ARF6-Hs01922781_g1	32,357	31,568	31,568	5,670	0,664	1,000	1,000
Controle	Controle 3	GUSB-Hs99999908_m1	28,532	29,146	29,146	3,247	0,155	1,000	1,000
Controle	Controle 3	PTEN-Hs02621230_s1	31,142	32,290	32,290	6,392	0,473	1,000	1,000
Controle	Controle 7	PLCG1-Hs01008225_m1	28,379	29,955	29,955	4,057	0,290	1,000	1,000
Controle	Controle 2	MYH9-Hs00159522_m1	23,063	23,346	23,346	-2,553	0,440	1,000	1,000
Controle	Controle 7	RPLP0-Hs99999902_m1	22,151	23,498	23,498	-2,400	0,285	1,000	1,000
Controle	Controle 5	WASF2-Hs00819075_gH	33,988	30,884	30,884	4,985	0,402	1,000	1,000
Controle	Controle 6	MMP14-Hs01037003_g1	26,588	25,952	25,952	0,053	0,424	1,000	1,000
Controle	Controle 7	ARHGEF7-Hs00388776_m1	28,068	30,198	30,198	4,300	0,387	1,000	1,000
Controle	Controle 7	IGF1R-Hs00609566_m1	28,659	28,900	28,900	3,001	0,267	1,000	1,000
Controle	Controle 7	FAP-Hs00990806_m1	29,570	28,051	28,051	2,152	0,570	1,000	1,000
Controle	Controle 7	MYL9-Hs00697086_m1	20,999	22,232	22,232	-3,667	0,451	1,000	1,000
Controle	Controle 3	POLR2A-Hs00172187_m1	27,472	28,569	28,569	2,670	0,247	1,000	1,000
Controle	Controle 3	BCAR1-Hs01547079_m1	26,825	28,404	28,404	2,505	0,323	1,000	1,000
Controle	Controle 3	TIMP2-Hs00234278_m1	23,040	24,452	24,452	-1,447	0,328	1,000	1,000
Controle	Controle 7	ACTR2-Hs00855199_g1	28,004	29,834	29,834	3,936	0,465	1,000	1,000
Controle	Controle 5	ACTB-Hs01060665_g1	23,600	21,637	21,637	-4,262	0,203	1,000	1,000

Controle	Controle 3	RAC2-Hs01036635_s1	29,127	31,033	31,033	5,134	0,339	1,000	1,000
Controle	Controle 1	PTK2-Hs01056457_m1	27,886	28,062	28,062	2,164	0,247	1,000	1,000
Controle	Controle 5	GUSB-Hs99999908_m1	30,983	29,146	29,146	3,247	0,155	1,000	1,000
Controle	Controle 2	STAT3-Hs00374280_m1	28,046	28,405	28,405	2,506	0,224	1,000	1,000
Controle	Controle 1	PTK2B-Hs00169444_m1	34,787	34,141	34,141	8,242	0,468	1,000	1,000
Controle	Controle 4	PXN-Hs01104424_m1	27,292	27,413	27,413	1,514	0,312	1,000	1,000
Controle	Controle 7	PAK4-Hs01100061_m1	28,009	29,302	29,302	3,403	0,238	1,000	1,000
Controle	Controle 5	PFN1-Hs00748915_s1	28,904	27,765	27,765	1,867	0,381	1,000	1,000
Controle	Controle 1	BCAR1-Hs01547079_m1	28,253	28,404	28,404	2,505	0,323	1,000	1,000
Controle	Controle 7	HPRT1-Hs02800695_m1	29,579	30,067	30,067	4,168	0,148	1,000	1,000
Controle	Controle 1	VIM-Hs00185584_m1	21,154	22,102	22,102	-3,797	0,240	1,000	1,000
Controle	Controle 4	WIPF1-Hs00277097_m1	28,359	29,321	29,321	3,423	0,184	1,000	1,000
Controle	Controle 5	CAV1-Hs00971716_m1	24,992	24,397	24,397	-1,502	0,309	1,000	1,000
Controle	Controle 2	UBC-Hs00824723_m1	22,636	23,659	23,659	-2,240	0,220	1,000	1,000
Controle	Controle 3	PFN1-Hs00748915_s1	26,246	27,765	27,765	1,867	0,381	1,000	1,000
Controle	Controle 6	VASP-Hs01100128_m1	28,472	26,600	26,600	0,701	0,222	1,000	1,000
Controle	Controle 2	PRKCA-Hs00925193_m1	26,968	27,649	27,649	1,751	0,224	1,000	1,000
Controle	Controle 2	ACTN3-Hs00153812_m1	Undetermined					1,000	
Controle	Controle 6	PLCG1-Hs01008225_m1	30,865	29,955	29,955	4,057	0,290	1,000	1,000
Controle	Controle 2	SVIL-Hs00931022_m1	32,125	32,291	32,291	6,393	0,499	1,000	1,000
Controle	Controle 5	RASA1-Hs00243115_m1	33,457	30,354	30,354	4,455	0,308	1,000	1,000
Controle	Controle 7	STAT3-Hs00374280_m1	27,449	28,405	28,405	2,506	0,224	1,000	1,000
Controle	Controle 6	PTEN-Hs02621230_s1	32,631	32,290	32,290	6,392	0,473	1,000	1,000
Controle	Controle 5	CFL1-Hs02621564_g1	26,775	24,952	24,952	-0,946	0,391	1,000	1,000
Controle	Controle 5	B2M-Hs00984230_m1	24,123	22,655	22,655	-3,243	0,337	1,000	1,000
Controle	Controle 6	STAT3-Hs00374280_m1	29,352	28,405	28,405	2,506	0,224	1,000	1,000
Controle	Controle 3	IGF1-Hs01547656_m1	Undetermined	34,441	34,441	8,113	0,757	1,000	1,000
Controle	Controle 7	ROCK1-Hs01127699_m1	27,340	28,267	28,267	2,368	0,157	1,000	1,000
Controle	Controle 2	PTEN-Hs02621230_s1	30,078	32,290	32,290	6,392	0,473	1,000	1,000
Controle	Controle 4	MSN-Hs00741306_mH	25,987	25,928	25,928	0,029	0,321	1,000	1,000
Controle	Controle 6	HPRT1-Hs02800695_m1	32,007	30,067	30,067	4,168	0,148	1,000	1,000

Controle	Controle 1	FAP-Hs00990806_m1	27,431	28,051	28,051	2,152	0,570	1,000	1,000
Controle	Controle 4	PLCG1-Hs01008225_m1	29,570	29,955	29,955	4,057	0,290	1,000	1,000
Controle	Controle 1	CTTN-Hs01124225_m1	28,794	27,861	27,861	1,962	0,395	1,000	1,000
Controle	Controle 3	ROCK1-Hs01127699_m1	27,472	28,267	28,267	2,368	0,157	1,000	1,000
Controle	Controle 2	DPP4-Hs00175210_m1	28,803	31,114	31,114	5,216	0,668	1,000	1,000
Controle	Controle 1	ARF6-Hs01922781_g1	33,336	31,568	31,568	5,670	0,664	1,000	1,000
Controle	Controle 5	VCL-Hs00419715_m1	26,883	24,760	24,760	-1,138	0,303	1,000	1,000
Controle	Controle 2	ITGB1-Hs00559595_m1	24,971	25,395	25,395	-0,503	0,367	1,000	1,000
Controle	Controle 5	VIM-Hs00185584_m1	23,491	22,102	22,102	-3,797	0,240	1,000	1,000
Controle	Controle 7	MMP9-Hs00234579_m1	36,625	37,330	37,330	11,719	0,856	1,000	1,000
Controle	Controle 5	HPRT1-Hs02800695_m1	32,173	30,067	30,067	4,168	0,148	1,000	1,000
Controle	Controle 7	CAV1-Hs00971716_m1	23,710	24,397	24,397	-1,502	0,309	1,000	1,000
Controle	Controle 7	VCL-Hs00419715_m1	23,593	24,760	24,760	-1,138	0,303	1,000	1,000
Controle	Controle 4	PGK1-Hs99999906_m1	24,495	25,489	25,489	-0,409	0,099	1,000	1,000
Controle	Controle 7	DPP4-Hs00175210_m1	29,970	31,114	31,114	5,216	0,668	1,000	1,000
Controle	Controle 4	PAK1-Hs00945621_m1	29,778	29,552	29,552	3,653	0,392	1,000	1,000
Controle	Controle 3	RPLP0-Hs99999902_m1	22,663	23,498	23,498	-2,400	0,285	1,000	1,000
Controle	Controle 5	CAPN1-Hs00559804_m1	29,760	27,479	27,479	1,580	0,306	1,000	1,000
Controle	Controle 4	ACTN1-Hs00998100_m1	24,642	24,328	24,328	-1,571	0,312	1,000	1,000
Controle	Controle 1	ROCK1-Hs01127699_m1	27,828	28,267	28,267	2,368	0,157	1,000	1,000
Controle	Controle 6	HGF-Hs00300159_m1	35,990	34,011	34,011	8,112	0,847	1,000	1,000
Controle	Controle 2	RAC2-Hs01036635_s1	30,953	31,033	31,033	5,134	0,339	1,000	1,000
Controle	Controle 7	ITGB3-Hs01001469_m1	26,438	28,031	28,031	2,133	0,371	1,000	1,000
Controle	Controle 7	ITGA4-Hs00168433_m1	30,347	30,228	30,228	4,329	0,299	1,000	1,000
Controle	Controle 2	PGK1-Hs99999906_m1	24,093	25,489	25,489	-0,409	0,099	1,000	1,000
Controle	Controle 2	GUSB-Hs99999908_m1	28,404	29,146	29,146	3,247	0,155	1,000	1,000
Controle	Controle 3	VIM-Hs00185584_m1	20,638	22,102	22,102	-3,797	0,240	1,000	1,000
Controle	Controle 1	WASF2-Hs00819075_gH	31,370	30,884	30,884	4,985	0,402	1,000	1,000
Controle	Controle 7	PIK3CA-Hs00907957_m1	29,210	30,826	30,826	4,928	0,258	1,000	1,000
Controle	Controle 4	CTTN-Hs01124225_m1	28,219	27,861	27,861	1,962	0,395	1,000	1,000
Controle	Controle 3	18S-Hs99999901_s1	9,895	11,192	11,192	-14,706	0,469	1,000	1,000

Controle	Controle 1	CAV1-Hs00971716_m1	24,743	24,397	24,397	-1,502	0,309	1,000	1,000
Controle	Controle 2	IPO8-Hs00183533_m1	27,954	28,763	28,763				
Controle	Controle 6	PGK1-Hs99999906_m1	27,353	25,489	25,489	-0,409	0,099	1,000	1,000
Controle	Controle 6	LIMK1-Hs00242728_m1	31,955	30,835	30,835	4,936	0,337	1,000	1,000
Controle	Controle 3	RHOC-Hs00747110_s1	25,573	26,995	26,995	1,096	0,265	1,000	1,000
Controle	Controle 3	CRK-Hs00180418_m1	27,374	28,562	28,562	2,663	0,370	1,000	1,000
Controle	Controle 7	ACTN4-Hs00245168_m1	23,616	25,193	25,193	-0,706	0,387	1,000	1,000
Controle	Controle 5	RND3-Hs01003594_m1	28,054	26,534	26,534	0,635	0,411	1,000	1,000
Controle	Controle 1	SVIL-Hs00931022_m1	32,695	32,291	32,291	6,393	0,499	1,000	1,000
Controle	Controle 5	MYL9-Hs00697086_m1	23,070	22,232	22,232	-3,667	0,451	1,000	1,000
Controle	Controle 6	TLN1-Hs00196775_m1	28,414	26,714	26,714	0,815	0,223	1,000	1,000
Controle	Controle 7	IGF1-Hs01547656_m1	34,637	34,441	34,441	8,113	0,757	1,000	1,000
Controle	Controle 1	CDC42-Hs00918044_g1	28,400	27,679	27,679	1,781	0,351	1,000	1,000
Controle	Controle 7	MMP14-Hs01037003_g1	24,965	25,952	25,952	0,053	0,424	1,000	1,000
Controle	Controle 6	SH3PXD2A-Hs00206037_m1	31,849	31,022	31,022	5,124	0,349	1,000	1,000
Controle	Controle 2	TIMP2-Hs00234278_m1	24,085	24,452	24,452	-1,447	0,328	1,000	1,000
Controle	Controle 1	PTEN-Hs02621230_s1	33,875	32,290	32,290	6,392	0,473	1,000	1,000
Controle	Controle 5	ILK-Hs01101168_g1	25,981	24,967	24,967	-0,931	0,296	1,000	1,000
Controle	Controle 4	CDC42-Hs00918044_g1	28,053	27,679	27,679	1,781	0,351	1,000	1,000
Controle	Controle 5	ARHGDIA-Hs00366348_g1	28,363	26,287	26,287	0,388	0,276	1,000	1,000
Controle	Controle 2	WIPF1-Hs00277097_m1	28,689	29,321	29,321	3,423	0,184	1,000	1,000
Controle	Controle 6	BAIAP2-Hs00170734_m1	31,733	30,507	30,507	4,608	0,378	1,000	1,000
Controle	Controle 1	MYH9-Hs00159522_m1	23,956	23,346	23,346	-2,553	0,440	1,000	1,000
Controle	Controle 7	AKT1-Hs00178289_m1	25,463	27,153	27,153	1,254	0,384	1,000	1,000
Controle	Controle 5	ACTN4-Hs00245168_m1	27,082	25,193	25,193	-0,706	0,387	1,000	1,000
Controle	Controle 4	RHO-Hs00892431_m1	Undetermined					1,000	
Controle	Controle 1	PGK1-Hs99999906_m1	25,558	25,489	25,489	-0,409	0,099	1,000	1,000
Controle	Controle 7	ILK-Hs01101168_g1	24,199	24,967	24,967	-0,931	0,296	1,000	1,000
Controle	Controle 1	VASP-Hs01100128_m1	26,214	26,600	26,600	0,701	0,222	1,000	1,000
Controle	Controle 4	PIK3CA-Hs00907957_m1	30,947	30,826	30,826	4,928	0,258	1,000	1,000
Controle	Controle 4	CSF1-Hs00174164_m1	30,234	30,704	30,704	4,805	0,491	1,000	1,000

Controle	Controle 2	WASL-Hs00187614_m1	29,894	30,459	30,459	4,560	0,300	1,000	1,000
Controle	Controle 6	DIAPH1-Hs00946556_m1	30,963	29,431	29,431	3,532	0,304	1,000	1,000
Controle	Controle 2	TGFB1-Hs00998133_m1	29,549	29,161	29,161	3,262	0,321	1,000	1,000
Controle	Controle 6	CRK-Hs00180418_m1	30,028	28,562	28,562	2,663	0,370	1,000	1,000
Controle	Controle 4	RHOC-Hs00747110_s1	27,116	26,995	26,995	1,096	0,265	1,000	1,000
Controle	Controle 2	CTTN-Hs01124225_m1	27,048	27,861	27,861	1,962	0,395	1,000	1,000
Controle	Controle 3	ARHGEF7-Hs00388776_m1	29,000	30,198	30,198	4,300	0,387	1,000	1,000
Controle	Controle 2	MYLK-Hs00364926_m1	25,401	26,494	26,494	0,596	0,463	1,000	1,000
Controle	Controle 7	ACTN1-Hs00998100_m1	23,366	24,328	24,328	-1,571	0,312	1,000	1,000
Controle	Controle 5	MAPK1-Hs01046830_m1	30,406	28,243	28,243	2,345	0,233	1,000	1,000
Controle	Controle 4	HPRT1-Hs02800695_m1	29,049	30,067	30,067	4,168	0,148	1,000	1,000
Controle	Controle 7	ACTB-Hs01060665_g1	21,325	21,637	21,637	-4,262	0,203	1,000	1,000
Controle	Controle 6	CDC42-Hs00918044_g1	29,103	27,679	27,679	1,781	0,351	1,000	1,000
Controle	Controle 7	RAC2-Hs01036635_s1	30,133	31,033	31,033	5,134	0,339	1,000	1,000
Controle	Controle 4	STAT3-Hs00374280_m1	27,936	28,405	28,405	2,506	0,224	1,000	1,000
Controle	Controle 1	IGF1R-Hs00609566_m1	28,377	28,900	28,900	3,001	0,267	1,000	1,000
Controle	Controle 2	PPIA-Hs99999904_m1	21,874	22,989	22,989	-2,910			1,000
Controle	Controle 4	AKT1-Hs00178289_m1	27,997	27,153	27,153	1,254	0,384	1,000	1,000
Controle	Controle 1	MET-Hs01565584_m1	28,211	29,618	29,618	3,719	0,240	1,000	1,000
Controle	Controle 1	ILK-Hs01101168_g1	25,018	24,967	24,967	-0,931	0,296	1,000	1,000
Controle	Controle 7	MYLK-Hs00364926_m1	25,741	26,494	26,494	0,596	0,463	1,000	1,000
Controle	Controle 2	WASF2-Hs00819075_gH	30,140	30,884	30,884	4,985	0,402	1,000	1,000
Controle	Controle 2	ACTR3-Hs00828586_m1	24,935	26,281	26,281	0,382	0,275	1,000	1,000
Controle	Controle 7	MYH9-Hs00159522_m1	21,832	23,346	23,346	-2,553	0,440	1,000	1,000
Controle	Controle 1	PLCG1-Hs01008225_m1	29,514	29,955	29,955	4,057	0,290	1,000	1,000
Controle	Controle 5	PTK2-Hs01056457_m1	30,297	28,062	28,062	2,164	0,247	1,000	1,000
Controle	Controle 7	TGFB1-Hs00998133_m1	27,920	29,161	29,161	3,262	0,321	1,000	1,000
Controle	Controle 4	PFN1-Hs00748915_s1	27,180	27,765	27,765	1,867	0,381	1,000	1,000
Controle	Controle 5	WASF1-Hs01591751_m1	34,616	32,100	32,100	6,201	0,270	1,000	1,000
Controle	Controle 6	PPIA-Hs99999904_m1	24,963	22,989	22,989	-2,910			1,000
Controle	Controle 6	CFL1-Hs02621564_g1	26,637	24,952	24,952	-0,946	0,391	1,000	1,000

Controle	Controle 4	RDX-Hs00988414_g1	27,165	27,851	27,851	1,953	0,148	1,000	1,000
Controle	Controle 4	IGF1-Hs01547656_m1	Undetermined	34,441	34,441	8,113	0,757	1,000	1,000
Controle	Controle 1	TLN1-Hs00196775_m1	26,494	26,714	26,714	0,815	0,223	1,000	1,000
Controle	Controle 6	RAC2-Hs01036635_s1	32,899	31,033	31,033	5,134	0,339	1,000	1,000
Controle	Controle 2	ACTN4-Hs00245168_m1	24,662	25,193	25,193	-0,706	0,387	1,000	1,000
Controle	Controle 5	PAK4-Hs01100061_m1	31,821	29,302	29,302	3,403	0,238	1,000	1,000
Controle	Controle 3	RHOB-Hs03676562_s1	27,272	28,326	28,326	2,427	0,306	1,000	1,000
Controle	Controle 5	SH3PXD2A-Hs00206037_m1	32,209	31,022	31,022	5,124	0,349	1,000	1,000
Controle	Controle 6	RND3-Hs01003594_m1	27,137	26,534	26,534	0,635	0,411	1,000	1,000
Controle	Controle 4	ROCK1-Hs01127699_m1	28,062	28,267	28,267	2,368	0,157	1,000	1,000
Controle	Controle 4	18S-Hs99999901_s1	11,259	11,192	11,192	-14,706	0,469	1,000	1,000
Controle	Controle 5	ITGB1-Hs00559595_m1	26,762	25,395	25,395	-0,503	0,367	1,000	1,000
Controle	Controle 1	ACTN1-Hs00998100_m1	24,181	24,328	24,328	-1,571	0,312	1,000	1,000
Controle	Controle 1	SH3PXD2A-Hs00206037_m1	30,867	31,022	31,022	5,124	0,349	1,000	1,000
Controle	Controle 5	ITGA4-Hs00168433_m1	31,157	30,228	30,228	4,329	0,299	1,000	1,000
Controle	Controle 4	BCAR1-Hs01547079_m1	29,028	28,404	28,404	2,505	0,323	1,000	1,000
Controle	Controle 2	RHOC-Hs00747110_s1	25,989	26,995	26,995	1,096	0,265	1,000	1,000
Controle	Controle 2	CFL1-Hs02621564_g1	22,995	24,952	24,952	-0,946	0,391	1,000	1,000
Controle	Controle 2	BCAR1-Hs01547079_m1	27,770	28,404	28,404	2,505	0,323	1,000	1,000
Controle	Controle 2	IGF1-Hs01547656_m1	32,326	34,441	34,441	8,113	0,757	1,000	1,000
Controle	Controle 7	VEGFA-Hs00900055_m1	26,700	27,652	27,652	1,753	0,380	1,000	1,000
Controle	Controle 6	MMP2-Hs01548727_m1	25,194	25,091	25,091	-0,808	0,374	1,000	1,000
Controle	Controle 1	ITGB3-Hs01001469_m1	27,881	28,031	28,031	2,133	0,371	1,000	1,000
Controle	Controle 1	FGF2-Hs00266645_m1	26,904	28,221	28,221	2,323	0,200	1,000	1,000
Controle	Controle 7	IPO8-Hs00183533_m1	28,048	28,763	28,763				
Controle	Controle 3	FAP-Hs00990806_m1	26,569	28,051	28,051	2,152	0,570	1,000	1,000
Controle	Controle 7	ARF6-Hs01922781_g1	29,107	31,568	31,568	5,670	0,664	1,000	1,000
Controle	Controle 1	RDX-Hs00988414_g1	27,391	27,851	27,851	1,953	0,148	1,000	1,000
Controle	Controle 1	PLAUR-Hs00958880_m1	25,464	27,659	27,659	1,761	0,402	1,000	1,000
Controle	Controle 4	CAPN2-Hs00965097_m1	26,630	25,805	25,805	-0,094	0,363	1,000	1,000
Controle	Controle 7	LIMK1-Hs00242728_m1	29,798	30,835	30,835	4,936	0,337	1,000	1,000

Controle	Controle 1	EGFR-Hs01076078_m1	28,215	29,439	29,439	3,540	0,390	1,000	1,000
Controle	Controle 5	SRC-Hs01082246_m1	32,049	29,917	29,917	4,019	0,273	1,000	1,000
Controle	Controle 3	MYH9-Hs00159522_m1	21,088	23,346	23,346	-2,553	0,440	1,000	1,000
Controle	Controle 3	ILK-Hs01101168_g1	23,438	24,967	24,967	-0,931	0,296	1,000	1,000
Controle	Controle 3	ACTR3-Hs00828586_m1	25,372	26,281	26,281	0,382	0,275	1,000	1,000
Controle	Controle 4	MET-Hs01565584_m1	28,927	29,618	29,618	3,719	0,240	1,000	1,000
Controle	Controle 4	PRKCA-Hs00925193_m1	27,370	27,649	27,649	1,751	0,224	1,000	1,000
Controle	Controle 7	SH3PXD2A-Hs00206037_m1	30,153	31,022	31,022	5,124	0,349	1,000	1,000
Controle	Controle 6	SVIL-Hs00931022_m1	31,911	32,291	32,291	6,393	0,499	1,000	1,000
Controle	Controle 3	PIK3CA-Hs00907957_m1	30,577	30,826	30,826	4,928	0,258	1,000	1,000
Controle	Controle 5	MMP2-Hs01548727_m1	26,412	25,091	25,091	-0,808	0,374	1,000	1,000
Controle	Controle 2	VEGFA-Hs00900055_m1	27,193	27,652	27,652	1,753	0,380	1,000	1,000
Controle	Controle 2	B2M-Hs00984230_m1	22,045	22,655	22,655	-3,243	0,337	1,000	1,000
Controle	Controle 3	CDC42-Hs00918044_g1	26,294	27,679	27,679	1,781	0,351	1,000	1,000
Controle	Controle 3	VCL-Hs00419715_m1	23,182	24,760	24,760	-1,138	0,303	1,000	1,000
Controle	Controle 7	ENAH-Hs00403109_m1	29,036	29,043	29,043	3,144	0,379	1,000	1,000
Controle	Controle 4	EGF-Hs01099999_m1	37,819	35,094	35,094	9,195	0,897	1,000	1,000
Controle	Controle 6	MYH9-Hs00159522_m1	24,654	23,346	23,346	-2,553	0,440	1,000	1,000
Controle	Controle 6	VIM-Hs00185584_m1	24,213	22,102	22,102	-3,797	0,240	1,000	1,000
Controle	Controle 4	FGF2-Hs00266645_m1	27,970	28,221	28,221	2,323	0,200	1,000	1,000
Controle	Controle 7	GUSB-Hs99999908_m1	28,190	29,146	29,146	3,247	0,155	1,000	1,000
Controle	Controle 2	GAPDH-Hs02758991_g1	21,341	23,035	23,035			1,000	
Controle	Controle 1	DPP4-Hs00175210_m1	32,120	31,114	31,114	5,216	0,668	1,000	1,000
Controle	Controle 1	ACTR2-Hs00855199_g1	30,933	29,834	29,834	3,936	0,465	1,000	1,000
Controle	Controle 6	CSF1-Hs00174164_m1	31,836	30,704	30,704	4,805	0,491	1,000	1,000
Controle	Controle 1	MMP9-Hs00234579_m1	35,406	37,330	37,330	11,719	0,856	1,000	1,000
Controle	Controle 2	VCL-Hs00419715_m1	24,129	24,760	24,760	-1,138	0,303	1,000	1,000
Controle	Controle 1	ITGA4-Hs00168433_m1	29,298	30,228	30,228	4,329	0,299	1,000	1,000
Controle	Controle 2	PXN-Hs01104424_m1	26,903	27,413	27,413	1,514	0,312	1,000	1,000
Controle	Controle 1	PAK1-Hs00945621_m1	28,646	29,552	29,552	3,653	0,392	1,000	1,000
Controle	Controle 1	HGF-Hs00300159_m1	33,079	34,011	34,011	8,112	0,847	1,000	1,000

Controle	Controle 2	MYH10-Hs00992055_m1	25,872	27,253	27,253	1,354	0,416	1,000	1,000
Controle	Controle 6	ARHGDIA-Hs00366348_g1	28,001	26,287	26,287	0,388	0,276	1,000	1,000
Controle	Controle 3	PTK2B-Hs00169444_m1	31,938	34,141	34,141	8,242	0,468	1,000	1,000
Controle	Controle 2	MET-Hs01565584_m1	28,718	29,618	29,618	3,719	0,240	1,000	1,000
Controle	Controle 5	RHOC-Hs00747110_s1	27,982	26,995	26,995	1,096	0,265	1,000	1,000
Controle	Controle 3	EZR-Hs00931653_m1	24,966	26,075	26,075	0,176	0,232	1,000	1,000
Controle	Controle 2	SH3PXD2A-Hs00206037_m1	30,223	31,022	31,022	5,124	0,349	1,000	1,000
Controle	Controle 7	ARHGDIA-Hs00366348_g1	25,257	26,287	26,287	0,388	0,276	1,000	1,000
Controle	Controle 5	RAC2-Hs01036635_s1	33,738	31,033	31,033	5,134	0,339	1,000	1,000
Controle	Controle 2	CRK-Hs00180418_m1	27,247	28,562	28,562	2,663	0,370	1,000	1,000
Controle	Controle 6	PAK4-Hs01100061_m1	30,834	29,302	29,302	3,403	0,238	1,000	1,000
Controle	Controle 6	EZR-Hs00931653_m1	28,169	26,075	26,075	0,176	0,232	1,000	1,000
Controle	Controle 5	IPO8-Hs00183533_m1	30,396	28,763	28,763				
Controle	Controle 6	CAPN1-Hs00559804_m1	28,952	27,479	27,479	1,580	0,306	1,000	1,000
Controle	Controle 3	PAK4-Hs01100061_m1	28,235	29,302	29,302	3,403	0,238	1,000	1,000
Controle	Controle 4	MMP9-Hs00234579_m1	39,921	37,330	37,330	11,719	0,856	1,000	1,000
Controle	Controle 4	RND3-Hs01003594_m1	27,040	26,534	26,534	0,635	0,411	1,000	1,000
Controle	Controle 6	CAV1-Hs00971716_m1	26,401	24,397	24,397	-1,502	0,309	1,000	1,000
Controle	Controle 7	SVIL-Hs00931022_m1	30,180	32,291	32,291	6,393	0,499	1,000	1,000
Controle	Controle 5	RPLP0-Hs99999902_m1	24,950	23,498	23,498	-2,400	0,285	1,000	1,000
Controle	Controle 3	PXN-Hs01104424_m1	25,946	27,413	27,413	1,514	0,312	1,000	1,000
Controle	Controle 7	POLR2A-Hs00172187_m1	27,846	28,569	28,569	2,670	0,247	1,000	1,000
Controle	Controle 5	ITGB2-Hs00164957_m1	Undetermined	34,390	34,390	8,779	1,149	1,000	1,000
Controle	Controle 4	TLN1-Hs00196775_m1	26,143	26,714	26,714	0,815	0,223	1,000	1,000
Controle	Controle 4	LIMK1-Hs00242728_m1	31,034	30,835	30,835	4,936	0,337	1,000	1,000
Controle	Controle 2	PLAUR-Hs00958880_m1	27,051	27,659	27,659	1,761	0,402	1,000	1,000
Controle	Controle 7	DIAPH1-Hs00946556_m1	28,325	29,431	29,431	3,532	0,304	1,000	1,000
Controle	Controle 2	MAPK1-Hs01046830_m1	27,387	28,243	28,243	2,345	0,233	1,000	1,000
Controle	Controle 1	DIAPH1-Hs00946556_m1	28,751	29,431	29,431	3,532	0,304	1,000	1,000
Controle	Controle 6	ILK-Hs01101168_g1	26,573	24,967	24,967	-0,931	0,296	1,000	1,000
Controle	Controle 3	ACTN3-Hs00153812_m1	Undetermined					1,000	

Controle	Controle 7	PRKCA-Hs00925193_m1	26,607	27,649	27,649	1,751	0,224	1,000	1,000
Controle	Controle 6	IGF1-Hs01547656_m1	33,736	34,441	34,441	8,113	0,757	1,000	1,000
Controle	Controle 5	LIMK1-Hs00242728_m1	33,587	30,835	30,835	4,936	0,337	1,000	1,000
Controle	Controle 7	PFN1-Hs00748915_s1	26,141	27,765	27,765	1,867	0,381	1,000	1,000
Controle	Controle 4	ACTN3-Hs00153812_m1	Undetermined					1,000	
Controle	Controle 1	WASL-Hs00187614_m1	30,097	30,459	30,459	4,560	0,300	1,000	1,000
Controle	Controle 1	WASF1-Hs01591751_m1	32,218	32,100	32,100	6,201	0,270	1,000	1,000
Controle	Controle 4	ITGB1-Hs00559595_m1	26,226	25,395	25,395	-0,503	0,367	1,000	1,000
Controle	Controle 2	HGF-Hs00300159_m1	36,694	34,011	34,011	8,112	0,847	1,000	1,000
Controle	Controle 3	WIPF1-Hs00277097_m1	28,037	29,321	29,321	3,423	0,184	1,000	1,000
Controle	Controle 6	DPP4-Hs00175210_m1	33,409	31,114	31,114	5,216	0,668	1,000	1,000
Controle	Controle 7	EGFR-Hs01076078_m1	28,946	29,439	29,439	3,540	0,390	1,000	1,000
Controle	Controle 7	PLD1-Hs00160118_m1	29,938	31,054	31,054	5,155	0,392	1,000	1,000
Controle	Controle 1	MYH10-Hs00992055_m1	27,239	27,253	27,253	1,354	0,416	1,000	1,000
Controle	Controle 5	PGK1-Hs99999906_m1	27,232	25,489	25,489	-0,409	0,099	1,000	1,000
Controle	Controle 5	VEGFA-Hs00900055_m1	29,202	27,652	27,652	1,753	0,380	1,000	1,000
Controle	Controle 3	HGF-Hs00300159_m1	30,738	34,011	34,011	8,112	0,847	1,000	1,000
Controle	Controle 7	TLN1-Hs00196775_m1	25,869	26,714	26,714	0,815	0,223	1,000	1,000
Controle	Controle 2	ITGB3-Hs01001469_m1	27,619	28,031	28,031	2,133	0,371	1,000	1,000
Controle	Controle 2	EGF-Hs01099999_m1	33,111	35,094	35,094	9,195	0,897	1,000	1,000
Controle	Controle 4	WASF2-Hs00819075_gH	30,370	30,884	30,884	4,985	0,402	1,000	1,000
Controle	Controle 1	RHOA-Hs00357608_m1	23,794	23,911	23,911	-1,987	0,200	1,000	1,000
Controle	Controle 2	LIMK1-Hs00242728_m1	29,973	30,835	30,835	4,936	0,337	1,000	1,000
Controle	Controle 1	RHOB-Hs03676562_s1	28,693	28,326	28,326	2,427	0,306	1,000	1,000
Controle	Controle 2	MYL9-Hs00697086_m1	21,742	22,232	22,232	-3,667	0,451	1,000	1,000
Controle	Controle 5	ENAH-Hs00403109_m1	30,807	29,043	29,043	3,144	0,379	1,000	1,000
Controle	Controle 5	PAK1-Hs00945621_m1	32,981	29,552	29,552	3,653	0,392	1,000	1,000
Controle	Controle 3	HPRT1-Hs02800695_m1	29,977	30,067	30,067	4,168	0,148	1,000	1,000
Controle	Controle 3	MMP9-Hs00234579_m1	39,164	37,330	37,330	11,719	0,856	1,000	1,000
Controle	Controle 6	EGFR-Hs01076078_m1	29,827	29,439	29,439	3,540	0,390	1,000	1,000
Controle	Controle 5	PLAUR-Hs00958880_m1	30,384	27,659	27,659	1,761	0,402	1,000	1,000

Controle	Controle 6	PTK2B-Hs00169444_m1	35,479	34,141	34,141	8,242	0,468	1,000	1,000
Controle	Controle 6	UBC-Hs00824723_m1	25,213	23,659	23,659	-2,240	0,220	1,000	1,000
Controle	Controle 4	FAP-Hs00990806_m1	28,931	28,051	28,051	2,152	0,570	1,000	1,000
Controle	Controle 7	ACTR3-Hs00828586_m1	25,342	26,281	26,281	0,382	0,275	1,000	1,000
Controle	Controle 3	IPO8-Hs00183533_m1	28,357	28,763	28,763				
Controle	Controle 4	VASP-Hs01100128_m1	26,549	26,600	26,600	0,701	0,222	1,000	1,000
Controle	Controle 1	GUSB-Hs99999908_m1	29,181	29,146	29,146	3,247	0,155	1,000	1,000
Controle	Controle 4	ACTB-Hs01060665_g1	21,600	21,637	21,637	-4,262	0,203	1,000	1,000
Controle	Controle 6	ACTB-Hs01060665_g1	22,638	21,637	21,637	-4,262	0,203	1,000	1,000
Controle	Controle 4	CRK-Hs00180418_m1	28,651	28,562	28,562	2,663	0,370	1,000	1,000
Controle	Controle 2	EGFR-Hs01076078_m1	29,045	29,439	29,439	3,540	0,390	1,000	1,000
Controle	Controle 7	FGF2-Hs00266645_m1	28,319	28,221	28,221	2,323	0,200	1,000	1,000
Controle	Controle 3	WASF1-Hs01591751_m1	30,379	32,100	32,100	6,201	0,270	1,000	1,000
Controle	Controle 4	IGF1R-Hs00609566_m1	29,032	28,900	28,900	3,001	0,267	1,000	1,000
Controle	Controle 3	PLD1-Hs00160118_m1	30,551	31,054	31,054	5,155	0,392	1,000	1,000
Controle	Controle 1	VCL-Hs00419715_m1	24,740	24,760	24,760	-1,138	0,303	1,000	1,000
Controle	Controle 6	PTPN1-Hs00942477_m1	30,279	29,136	29,136	3,237	0,259	1,000	1,000
Controle	Controle 5	ITGB3-Hs01001469_m1	30,328	28,031	28,031	2,133	0,371	1,000	1,000
Controle	Controle 6	SRC-Hs01082246_m1	31,457	29,917	29,917	4,019	0,273	1,000	1,000
Controle	Controle 2	18S-Hs99999901_s1	10,443	11,192	11,192	-14,706	0,469	1,000	1,000
Controle	Controle 2	FAP-Hs00990806_m1	27,128	28,051	28,051	2,152	0,570	1,000	1,000
Controle	Controle 4	ARF6-Hs01922781_g1	32,677	31,568	31,568	5,670	0,664	1,000	1,000
Controle	Controle 2	BAIAP2-Hs00170734_m1	29,124	30,507	30,507	4,608	0,378	1,000	1,000
Controle	Controle 6	FGF2-Hs00266645_m1	29,794	28,221	28,221	2,323	0,200	1,000	1,000
Controle	Controle 7	BCAR1-Hs01547079_m1	27,706	28,404	28,404	2,505	0,323	1,000	1,000
Controle	Controle 4	ITGB3-Hs01001469_m1	28,467	28,031	28,031	2,133	0,371	1,000	1,000
Controle	Controle 3	MET-Hs01565584_m1	29,293	29,618	29,618	3,719	0,240	1,000	1,000
Controle	Controle 1	ACTR3-Hs00828586_m1	26,042	26,281	26,281	0,382	0,275	1,000	1,000
Controle	Controle 5	CTTN-Hs01124225_m1	29,158	27,861	27,861	1,962	0,395	1,000	1,000
Controle	Controle 7	MSN-Hs00741306_mH	24,902	25,928	25,928	0,029	0,321	1,000	1,000
Controle	Controle 7	PPIA-Hs99999904_m1	21,960	22,989	22,989	-2,910			1,000

Controle	Controle 3	BAIAP2-Hs00170734_m1	28,704	30,507	30,507	4,608	0,378	1,000	1,000
Controle	Controle 3	PLCG1-Hs01008225_m1	29,284	29,955	29,955	4,057	0,290	1,000	1,000
Controle	Controle 4	GUSB-Hs99999908_m1	28,405	29,146	29,146	3,247	0,155	1,000	1,000
Controle	Controle 5	EGFR-Hs01076078_m1	31,461	29,439	29,439	3,540	0,390	1,000	1,000
Controle	Controle 6	ITGB1-Hs00559595_m1	25,712	25,395	25,395	-0,503	0,367	1,000	1,000
Controle	Controle 7	ITGB1-Hs00559595_m1	24,501	25,395	25,395	-0,503	0,367	1,000	1,000
Controle	Controle 3	CSF1-Hs00174164_m1	28,087	30,704	30,704	4,805	0,491	1,000	1,000
Controle	Controle 3	IGF1R-Hs00609566_m1	27,421	28,900	28,900	3,001	0,267	1,000	1,000
Controle	Controle 2	RHOB-Hs03676562_s1	27,924	28,326	28,326	2,427	0,306	1,000	1,000
Controle	Controle 3	CAPN1-Hs00559804_m1	25,832	27,479	27,479	1,580	0,306	1,000	1,000
Controle	Controle 3	VASP-Hs01100128_m1	25,253	26,600	26,600	0,701	0,222	1,000	1,000
Controle	Controle 3	TGFB1-Hs00998133_m1	28,588	29,161	29,161	3,262	0,321	1,000	1,000
Controle	Controle 3	MSN-Hs00741306_mH	24,638	25,928	25,928	0,029	0,321	1,000	1,000
Controle	Controle 2	MMP14-Hs01037003_g1	26,508	25,952	25,952	0,053	0,424	1,000	1,000
Controle	Controle 3	MAPK1-Hs01046830_m1	27,256	28,243	28,243	2,345	0,233	1,000	1,000
Controle	Controle 2	PTK2-Hs01056457_m1	27,085	28,062	28,062	2,164	0,247	1,000	1,000
Controle	Controle 3	RAC1-Hs01902432_s1	28,493	30,495	30,495	4,597	0,544	1,000	1,000
Controle	Controle 6	MYLK-Hs00364926_m1	26,733	26,494	26,494	0,596	0,463	1,000	1,000
Controle	Controle 4	DIAPH1-Hs00946556_m1	29,998	29,431	29,431	3,532	0,304	1,000	1,000
Controle	Controle 2	RAC1-Hs01902432_s1	30,625	30,495	30,495	4,597	0,544	1,000	1,000
Controle	Controle 2	PAK4-Hs01100061_m1	28,643	29,302	29,302	3,403	0,238	1,000	1,000
Controle	Controle 1	ITGB2-Hs00164957_m1	36,969	34,390	34,390	8,779	1,149	1,000	1,000
Controle	Controle 5	MET-Hs01565584_m1	30,720	29,618	29,618	3,719	0,240	1,000	1,000
Controle	Controle 6	IGF1R-Hs00609566_m1	30,056	28,900	28,900	3,001	0,267	1,000	1,000
Controle	Controle 7	WASL-Hs00187614_m1	29,222	30,459	30,459	4,560	0,300	1,000	1,000
Endometriose	Endometriose 1	RHO-Hs00892431_m1	Undetermined	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 2	RHOB-Hs03676562_s1	27,814	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 4	ILK-Hs01101168_g1	23,930	25,190	25,190	-0,630	0,321	0,811	0,490
Endometriose	Endometriose 3	RHOA-Hs00357608_m1	23,202	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 5	SRC-Hs01082246_m1	27,901	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 7	PXN-Hs01104424_m1	28,633	27,259	27,259	1,439	0,297	1,054	0,753

Endometriose	Endometriose 2	SVIL-Hs00931022_m1	32,423	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 2	PTEN-Hs02621230_s1	32,015	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 4	FGF2-Hs00266645_m1	27,611	28,392	28,392	2,572	0,439	0,841	0,887
Endometriose	Endometriose 7	IGF1R-Hs00609566_m1	31,923	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 3	PXN-Hs01104424_m1	25,435	27,259	27,259	1,439	0,297	1,054	0,753
Endometriose	Endometriose 8	FAP-Hs00990806_m1	27,456	27,957	27,957	2,137	0,456	1,011	0,783
Endometriose	Endometriose 4	MYLK-Hs00364926_m1	24,247	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 4	RAC1-Hs01902432_s1	28,537	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 8	SRC-Hs01082246_m1	30,175	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 4	ENAH-Hs00403109_m1	27,725	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 7	WASL-Hs00187614_m1	30,711	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 2	SH3PXD2A-Hs00206037_m1	31,337	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 3	MMP14-Hs01037003_g1	25,296	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 7	RAC2-Hs01036635_s1	33,560	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 2	PTPN1-Hs00942477_m1	30,290	28,945	28,945	3,125	0,167	1,081	0,816
Endometriose	Endometriose 7	RPLP0-Hs99999902_m1	23,116	23,051	23,051	-2,769	0,188	1,291	0,289
Endometriose	Endometriose 10	HGF-Hs00300159_m1	35,765	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 11	MYH10-Hs00992055_m1	26,370	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 7	CSF1-Hs00174164_m1	37,120	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 4	CSF1-Hs00174164_m1	27,587	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 2	BCAR1-Hs01547079_m1	29,176	28,788	28,788	2,968	0,820	0,725	0,838
Endometriose	Endometriose 2	FAP-Hs00990806_m1	28,486	27,957	27,957	2,137	0,456	1,011	0,783
Endometriose	Endometriose 11	RAC1-Hs01902432_s1	28,363	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 2	UBC-Hs00824723_m1	24,580	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 3	CFL1-Hs02621564_g1	23,431	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 11	TGFB1-Hs00998133_m1	28,192	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 10	RASA1-Hs00243115_m1	30,986	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 1	IPO8-Hs00183533_m1	29,150	28,636	28,636				
Endometriose	Endometriose 4	PXN-Hs01104424_m1	25,781	27,259	27,259	1,439	0,297	1,054	0,753
Endometriose	Endometriose 4	ITGB2-Hs00164957_m1	33,458	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 4	PTPN1-Hs00942477_m1	27,839	28,945	28,945	3,125	0,167	1,081	0,816

Endometriose	Endometriose 3	ACTN3-Hs00153812_m1	39,493	39,259	39,259	14,219	0,204		
Endometriose	Endometriose 5	TGFB1-Hs00998133_m1	26,847	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 4	RND3-Hs01003594_m1	25,755	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 10	FGF2-Hs00266645_m1	28,444	28,392	28,392	2,572	0,439	0,841	0,887
Endometriose	Endometriose 7	UBC-Hs00824723_m1	23,842	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 4	VASP-Hs01100128_m1	25,829	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 3	AKT1-Hs00178289_m1	25,271	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 5	CTTN-Hs01124225_m1	26,163	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 5	STAT3-Hs00374280_m1	26,340	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 2	VEGFA-Hs00900055_m1	28,809	27,005	27,005	1,185	0,278	1,483	0,273
Endometriose	Endometriose 4	STAT3-Hs00374280_m1	26,914	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 7	WIPF1-Hs00277097_m1	30,810	29,145	29,145	3,325	0,257	1,070	0,485
Endometriose	Endometriose 8	WIPF1-Hs00277097_m1	29,951	29,145	29,145	3,325	0,257	1,070	0,485
Endometriose	Endometriose 10	WASL-Hs00187614_m1	30,776	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 11	BAIAP2-Hs00170734_m1	28,585	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 4	CRK-Hs00180418_m1	27,232	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 2	MMP2-Hs01548727_m1	26,175	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 1	WASF1-Hs01591751_m1	32,179	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 4	GUSB-Hs99999908_m1	27,773	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 4	CFL1-Hs02621564_g1	23,204	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 10	TLN1-Hs00196775_m1	29,516	26,770	26,770	0,950	0,369	0,911	0,775
Endometriose	Endometriose 2	FGF2-Hs00266645_m1	29,273	28,392	28,392	2,572	0,439	0,841	0,887
Endometriose	Endometriose 8	TIMP2-Hs00234278_m1	24,242	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 10	RHOB-Hs03676562_s1	27,462	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 5	PRKCA-Hs00925193_m1	25,458	27,807	27,807	1,987	0,318	0,849	0,982
Endometriose	Endometriose 11	ACTN1-Hs00998100_m1	23,460	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 8	FGF2-Hs00266645_m1	28,195	28,392	28,392	2,572	0,439	0,841	0,887
Endometriose	Endometriose 9	EGFR-Hs01076078_m1	27,912	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 2	HGF-Hs00300159_m1	37,132	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 5	ITGB3-Hs01001469_m1	25,533	28,014	28,014	2,194	0,421	0,958	0,775
Endometriose	Endometriose 3	VCL-Hs00419715_m1	23,673	24,723	24,723	-1,097	0,238	0,971	0,871

Endometriose	Endometriose 3	RND3-Hs01003594_m1	25,454	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 5	PLCG1-Hs01008225_m1	27,502	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 10	CTTN-Hs01124225_m1	29,712	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 9	VCL-Hs00419715_m1	23,538	24,723	24,723	-1,097	0,238	0,971	0,871
Endometriose	Endometriose 1	IGF1-Hs01547656_m1	35,527	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 8	MYLK-Hs00364926_m1	26,787	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 2	AKT1-Hs00178289_m1	27,961	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 7	PPIA-Hs99999904_m1	22,681	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 5	PTK2B-Hs00169444_m1	31,223	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 1	VASP-Hs01100128_m1	27,895	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 7	TLN1-Hs00196775_m1	28,190	26,770	26,770	0,950	0,369	0,911	0,775
Endometriose	Endometriose 2	GUSB-Hs99999908_m1	29,653	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 1	CRK-Hs00180418_m1	29,508	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 1	PLD1-Hs00160118_m1	29,513	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 5	EZR-Hs00931653_m1	25,104	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 10	ITGB3-Hs01001469_m1	30,276	28,014	28,014	2,194	0,421	0,958	0,775
Endometriose	Endometriose 1	RAC2-Hs01036635_s1	30,767	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 9	CFL1-Hs02621564_g1	23,816	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 8	DIAPH1-Hs00946556_m1	29,516	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 11	IGF1-Hs01547656_m1	31,251	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 2	PPIA-Hs99999904_m1	23,423	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 9	DPP4-Hs00175210_m1	30,134	30,898	30,898	5,078	0,850	1,100	0,475
Endometriose	Endometriose 5	ACTN4-Hs00245168_m1	23,442	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 2	MAPK1-Hs01046830_m1	29,478	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 9	PTK2-Hs01056457_m1	26,742	27,564	27,564	1,744	0,095	1,337	0,208
Endometriose	Endometriose 2	RPLP0-Hs99999902_m1	23,583	23,051	23,051	-2,769	0,188	1,291	0,289
Endometriose	Endometriose 9	MYL9-Hs00697086_m1	20,602	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 4	PGK1-Hs99999906_m1	24,791	25,379	25,379	-0,441	0,071	1,022	0,816
Endometriose	Endometriose 4	BAIAP2-Hs00170734_m1	28,404	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 4	RHO-Hs00892431_m1	39,259	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 5	PFN1-Hs00748915_s1	26,703	27,630	27,630	1,810	0,188	1,040	0,790

Endometriose	Endometriose 1	ILK-Hs01101168_g1	25,903	25,190	25,190	-0,630	0,321	0,811	0,490
Endometriose	Endometriose 8	WASL-Hs00187614_m1	30,372	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 2	ACTN3-Hs00153812_m1	Undetermined	39,259	39,259	14,219	0,204		
Endometriose	Endometriose 2	CAV1-Hs00971716_m1	26,094	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 9	B2M-Hs00984230_m1	22,298	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 1	CAPN2-Hs00965097_m1	26,031	26,193	26,193	0,373	0,730	0,723	0,862
Endometriose	Endometriose 10	ARF6-Hs01922781_g1	32,597	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 7	SRC-Hs01082246_m1	30,407	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 7	ACTR2-Hs00855199_g1	37,350	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 7	PAK1-Hs00945621_m1	31,124	28,972	28,972	3,152	0,257	1,415	0,281
Endometriose	Endometriose 9	PTK2B-Hs00169444_m1	31,346	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 2	EGFR-Hs01076078_m1	30,523	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 11	ITGA4-Hs00168433_m1	31,361	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 7	MSN-Hs00741306_mH	28,428	25,899	25,899	0,079	0,347	0,966	0,819
Endometriose	Endometriose 8	ARF6-Hs01922781_g1	31,156	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 4	PAK4-Hs01100061_m1	27,609	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 3	PRKCA-Hs00925193_m1	27,448	27,807	27,807	1,987	0,318	0,849	0,982
Endometriose	Endometriose 2	VIM-Hs00185584_m1	23,802	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 8	IGF1R-Hs00609566_m1	28,859	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 4	TIMP2-Hs00234278_m1	22,142	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 9	TLN1-Hs00196775_m1	24,952	26,770	26,770	0,950	0,369	0,911	0,775
Endometriose	Endometriose 7	ARF6-Hs01922781_g1	Undetermined	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 11	ACTR3-Hs00828586_m1	26,113	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 3	ACTR3-Hs00828586_m1	25,064	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 1	PLAUR-Hs00958880_m1	28,190	27,439	27,439	1,618	0,366	1,104	0,850
Endometriose	Endometriose 8	BCAR1-Hs01547079_m1	27,928	28,788	28,788	2,968	0,820	0,725	0,838
Endometriose	Endometriose 7	IGF1-Hs01547656_m1	36,939	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 2	STAT3-Hs00374280_m1	29,287	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 10	ACTN3-Hs00153812_m1	Undetermined	39,259	39,259	14,219	0,204		
Endometriose	Endometriose 11	ITGB1-Hs00559595_m1	24,324	25,337	25,337	-0,484	0,421	0,986	0,862
Endometriose	Endometriose 9	CAPN2-Hs00965097_m1	24,487	26,193	26,193	0,373	0,730	0,723	0,862

Endometriose	Endometriose 7	BAIAP2-Hs00170734_m1	Undetermined	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 4	SH3PXD2A-Hs00206037_m1	29,407	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 1	MMP9-Hs00234579_m1	Undetermined	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 8	CRK-Hs00180418_m1	28,614	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 9	PAK1-Hs00945621_m1	28,387	28,972	28,972	3,152	0,257	1,415	0,281
Endometriose	Endometriose 10	TGFB1-Hs00998133_m1	30,074	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 4	HGF-Hs00300159_m1	33,984	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 8	ITGA4-Hs00168433_m1	30,526	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 9	PTPN1-Hs00942477_m1	27,862	28,945	28,945	3,125	0,167	1,081	0,816
Endometriose	Endometriose 9	CAPN1-Hs00559804_m1	25,873	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 11	PAK1-Hs00945621_m1	27,601	28,972	28,972	3,152	0,257	1,415	0,281
Endometriose	Endometriose 11	RHO-Hs00892431_m1	Undetermined	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 2	PAK1-Hs00945621_m1	30,387	28,972	28,972	3,152	0,257	1,415	0,281
Endometriose	Endometriose 7	EGFR-Hs01076078_m1	35,100	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 11	ACTN4-Hs00245168_m1	23,735	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 5	RHOB-Hs03676562_s1	26,858	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 5	RPLP0-Hs99999902_m1	22,627	23,051	23,051	-2,769	0,188	1,291	0,289
Endometriose	Endometriose 9	ARHGDIA-Hs00366348_g1	25,054	27,024	27,024	1,204	0,902	0,568	0,828
Endometriose	Endometriose 5	RND3-Hs01003594_m1	25,974	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 8	CAPN1-Hs00559804_m1	27,730	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 5	MMP9-Hs00234579_m1	Undetermined	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 8	MET-Hs01565584_m1	31,003	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 8	RDX-Hs00988414_g1	28,138	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 9	RPLP0-Hs99999902_m1	21,830	23,051	23,051	-2,769	0,188	1,291	0,289
Endometriose	Endometriose 3	UBC-Hs00824723_m1	22,577	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 11	RHOC-Hs00747110_s1	26,390	26,529	26,529	0,708	0,130	1,308	0,309
Endometriose	Endometriose 11	PIK3CA-Hs00907957_m1	28,959	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 10	MYL9-Hs00697086_m1	23,627	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 8	ACTB-Hs01060665_g1	21,660	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 7	RHOB-Hs03676562_s1	28,200	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 1	ROCK1-Hs01127699_m1	28,877	28,154	28,154	2,334	0,163	1,024	0,770

Endometriose	Endometriose 10	PXN-Hs01104424_m1	29,603	27,259	27,259	1,439	0,297	1,054	0,753
Endometriose	Endometriose 10	ITGB2-Hs00164957_m1	33,569	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 11	MET-Hs01565584_m1	30,479	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 7	POLR2A-Hs00172187_m1	30,920	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 11	CRK-Hs00180418_m1	26,935	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 5	GUSB-Hs99999908_m1	27,333	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 10	FAP-Hs00990806_m1	27,771	27,957	27,957	2,137	0,456	1,011	0,783
Endometriose	Endometriose 3	ITGA4-Hs00168433_m1	28,965	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 4	TGFB1-Hs00998133_m1	28,449	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 7	RHO-Hs00892431_m1	Undetermined	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 7	RDX-Hs00988414_g1	28,875	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 7	ROCK1-Hs01127699_m1	28,340	28,154	28,154	2,334	0,163	1,024	0,770
Endometriose	Endometriose 5	ACTR3-Hs00828586_m1	26,331	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 9	UBC-Hs00824723_m1	22,804	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 1	WIPF1-Hs00277097_m1	30,020	29,145	29,145	3,325	0,257	1,070	0,485
Endometriose	Endometriose 8	VIM-Hs00185584_m1	22,700	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 8	B2M-Hs00984230_m1	22,399	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 3	18S-Hs99999901_s1	9,697	10,918	10,918	-14,902	0,736	1,145	0,255
Endometriose	Endometriose 3	CDC42-Hs00918044_g1	25,966	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 2	EZR-Hs00931653_m1	28,090	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 4	SRC-Hs01082246_m1	28,374	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 10	SRC-Hs01082246_m1	31,392	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 5	RHO-Hs00892431_m1	Undetermined	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 11	STAT3-Hs00374280_m1	26,981	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 1	CSF1-Hs00174164_m1	29,914	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 9	RAC1-Hs01902432_s1	28,441	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 9	ITGA4-Hs00168433_m1	29,535	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 9	POLR2A-Hs00172187_m1	27,809	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 10	CAPN1-Hs00559804_m1	28,842	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 1	PTK2B-Hs00169444_m1	34,415	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 11	PLAUR-Hs00958880_m1	25,909	27,439	27,439	1,618	0,366	1,104	0,850

Endometriose	Endometriose 2	B2M-Hs00984230_m1	22,278	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 2	DIAPH1-Hs00946556_m1	30,833	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 2	ACTR3-Hs00828586_m1	26,813	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 3	RHO-Hs00892431_m1	39,857	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 8	ACTN4-Hs00245168_m1	25,472	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 7	PTPN1-Hs00942477_m1	30,239	28,945	28,945	3,125	0,167	1,081	0,816
Endometriose	Endometriose 1	MYL9-Hs00697086_m1	23,115	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 3	PTK2-Hs01056457_m1	27,064	27,564	27,564	1,744	0,095	1,337	0,208
Endometriose	Endometriose 1	PTPN1-Hs00942477_m1	29,676	28,945	28,945	3,125	0,167	1,081	0,816
Endometriose	Endometriose 8	STAT3-Hs00374280_m1	28,690	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 4	DIAPH1-Hs00946556_m1	27,896	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 9	WASF2-Hs00819075_gH	28,447	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 9	PLAUR-Hs00958880_m1	27,134	27,439	27,439	1,618	0,366	1,104	0,850
Endometriose	Endometriose 9	STAT3-Hs00374280_m1	27,194	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 7	EZR-Hs00931653_m1	30,788	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 10	CAV1-Hs00971716_m1	26,369	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 8	MMP14-Hs01037003_g1	25,603	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 7	CAPN2-Hs00965097_m1	33,150	26,193	26,193	0,373	0,730	0,723	0,862
Endometriose	Endometriose 2	PRKCA-Hs00925193_m1	29,141	27,807	27,807	1,987	0,318	0,849	0,982
Endometriose	Endometriose 3	B2M-Hs00984230_m1	20,523	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 7	FAP-Hs00990806_m1	31,874	27,957	27,957	2,137	0,456	1,011	0,783
Endometriose	Endometriose 9	WASF1-Hs01591751_m1	30,632	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 3	ROCK1-Hs01127699_m1	26,868	28,154	28,154	2,334	0,163	1,024	0,770
Endometriose	Endometriose 5	ITGB2-Hs00164957_m1	30,724	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 10	WASF1-Hs01591751_m1	33,095	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 8	RAC1-Hs01902432_s1	30,145	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 3	CAV1-Hs00971716_m1	23,667	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 5	LIMK1-Hs00242728_m1	27,749	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 8	SH3PXD2A-Hs00206037_m1	31,489	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 3	EGFR-Hs01076078_m1	27,645	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 11	WIPF1-Hs00277097_m1	27,820	29,145	29,145	3,325	0,257	1,070	0,485

Endometriose	Endometriose 1	PIK3CA-Hs00907957_m1	30,976	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 10	IGF1-Hs01547656_m1	36,957	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 4	ACTN4-Hs00245168_m1	23,199	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 11	B2M-Hs00984230_m1	20,208	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 7	PAK4-Hs01100061_m1	32,879	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 7	DPP4-Hs00175210_m1	37,584	30,898	30,898	5,078	0,850	1,100	0,475
Endometriose	Endometriose 10	RND3-Hs01003594_m1	25,910	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 3	CTTN-Hs01124225_m1	26,478	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 2	CTTN-Hs01124225_m1	29,573	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 3	CRK-Hs00180418_m1	26,276	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 7	ITGB2-Hs00164957_m1	37,652	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 8	RND3-Hs01003594_m1	25,795	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 10	WIPF1-Hs00277097_m1	30,940	29,145	29,145	3,325	0,257	1,070	0,485
Endometriose	Endometriose 11	GUSB-Hs99999908_m1	27,343	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 9	PLD1-Hs00160118_m1	29,172	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 11	VASP-Hs01100128_m1	26,900	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 8	HGF-Hs00300159_m1	36,681	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 4	ACTR3-Hs00828586_m1	25,721	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 2	MYH10-Hs00992055_m1	28,472	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 9	MMP2-Hs01548727_m1	23,345	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 2	MMP14-Hs01037003_g1	27,403	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 10	ACTN4-Hs00245168_m1	27,106	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 2	RND3-Hs01003594_m1	26,492	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 10	PIK3CA-Hs00907957_m1	30,322	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 1	ACTR2-Hs00855199_g1	30,120	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 11	MMP2-Hs01548727_m1	22,356	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 5	PGK1-Hs99999906_m1	24,822	25,379	25,379	-0,441	0,071	1,022	0,816
Endometriose	Endometriose 11	PTK2B-Hs00169444_m1	33,024	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 9	CRK-Hs00180418_m1	26,716	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 7	ILK-Hs01101168_g1	28,351	25,190	25,190	-0,630	0,321	0,811	0,490
Endometriose	Endometriose 3	GAPDH-Hs02758991_g1	22,088	23,004	23,004				

Endometriose	Endometriose 11	MMP9-Hs00234579_m1	Undetermined	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 9	AKT1-Hs00178289_m1	25,792	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 7	ARHGEF7-Hs00388776_m1	38,483	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 10	ENAH-Hs00403109_m1	30,439	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 5	RASA1-Hs00243115_m1	29,174	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 10	EGFR-Hs01076078_m1	30,727	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 8	ENAH-Hs00403109_m1	29,822	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 5	WASF1-Hs01591751_m1	31,178	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 4	PTEN-Hs02621230_s1	30,898	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 2	RDX-Hs00988414_g1	28,040	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 1	ARF6-Hs01922781_g1	31,865	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 4	GAPDH-Hs02758991_g1	22,050	23,004	23,004				
Endometriose	Endometriose 5	ITGA4-Hs00168433_m1	32,332	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 4	B2M-Hs00984230_m1	21,571	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 7	RASA1-Hs00243115_m1	32,517	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 9	MMP9-Hs00234579_m1	Undetermined	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 10	IPO8-Hs00183533_m1	29,779	28,636	28,636				
Endometriose	Endometriose 10	RHOC-Hs00747110_s1	26,829	26,529	26,529	0,708	0,130	1,308	0,309
Endometriose	Endometriose 9	RHOA-Hs00357608_m1	23,098	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 3	SVIL-Hs00931022_m1	29,075	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 10	RHOA-Hs00357608_m1	24,748	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 11	PFN1-Hs00748915_s1	27,361	27,630	27,630	1,810	0,188	1,040	0,790
Endometriose	Endometriose 5	ARHGDIA-Hs00366348_g1	24,809	27,024	27,024	1,204	0,902	0,568	0,828
Endometriose	Endometriose 5	PTK2-Hs01056457_m1	26,893	27,564	27,564	1,744	0,095	1,337	0,208
Endometriose	Endometriose 10	ACTR2-Hs00855199_g1	30,504	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 1	VIM-Hs00185584_m1	23,063	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 7	CRK-Hs00180418_m1	34,072	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 11	ROCK1-Hs01127699_m1	26,970	28,154	28,154	2,334	0,163	1,024	0,770
Endometriose	Endometriose 1	MAPK1-Hs01046830_m1	28,755	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 1	RPLP0-Hs99999902_m1	24,447	23,051	23,051	-2,769	0,188	1,291	0,289
Endometriose	Endometriose 5	DPP4-Hs00175210_m1	28,292	30,898	30,898	5,078	0,850	1,100	0,475

Endometriose	Endometriose 2	ITGA4-Hs00168433_m1	31,305	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 4	MMP2-Hs01548727_m1	23,957	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 8	RPLP0-Hs99999902_m1	24,798	23,051	23,051	-2,769	0,188	1,291	0,289
Endometriose	Endometriose 8	PLD1-Hs00160118_m1	29,347	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 11	DIAPH1-Hs00946556_m1	28,617	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 8	PAK1-Hs00945621_m1	28,785	28,972	28,972	3,152	0,257	1,415	0,281
Endometriose	Endometriose 4	PLCG1-Hs01008225_m1	28,552	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 3	BAIAP2-Hs00170734_m1	28,451	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 8	MYH9-Hs00159522_m1	23,573	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 5	IGF1R-Hs00609566_m1	26,455	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 3	MET-Hs01565584_m1	28,229	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 11	CTTN-Hs01124225_m1	27,088	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 10	MMP14-Hs01037003_g1	27,541	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 9	SH3PXD2A-Hs00206037_m1	29,796	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 9	ROCK1-Hs01127699_m1	26,803	28,154	28,154	2,334	0,163	1,024	0,770
Endometriose	Endometriose 11	POLR2A-Hs00172187_m1	27,559	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 9	CAV1-Hs00971716_m1	23,224	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 4	ARHGDIA-Hs00366348_g1	25,094	27,024	27,024	1,204	0,902	0,568	0,828
Endometriose	Endometriose 3	RAC1-Hs01902432_s1	28,293	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 4	MET-Hs01565584_m1	30,575	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 2	WASL-Hs00187614_m1	30,908	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 3	MYLK-Hs00364926_m1	26,402	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 11	PGK1-Hs99999906_m1	24,516	25,379	25,379	-0,441	0,071	1,022	0,816
Endometriose	Endometriose 3	WASF2-Hs00819075_gH	28,617	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 7	PTK2-Hs01056457_m1	28,379	27,564	27,564	1,744	0,095	1,337	0,208
Endometriose	Endometriose 5	RAC1-Hs01902432_s1	27,487	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 5	RAC2-Hs01036635_s1	29,737	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 7	VASP-Hs01100128_m1	27,868	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 1	PPIA-Hs99999904_m1	23,546	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 2	PAK4-Hs01100061_m1	30,832	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 3	DPP4-Hs00175210_m1	28,763	30,898	30,898	5,078	0,850	1,100	0,475

Endometriose	Endometriose 3	PLCG1-Hs01008225_m1	28,334	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 3	IPO8-Hs00183533_m1	28,052	28,636	28,636				
Endometriose	Endometriose 9	IPO8-Hs00183533_m1	27,986	28,636	28,636				
Endometriose	Endometriose 4	ITGB3-Hs01001469_m1	27,444	28,014	28,014	2,194	0,421	0,958	0,775
Endometriose	Endometriose 1	DPP4-Hs00175210_m1	31,547	30,898	30,898	5,078	0,850	1,100	0,475
Endometriose	Endometriose 3	FAP-Hs00990806_m1	27,606	27,957	27,957	2,137	0,456	1,011	0,783
Endometriose	Endometriose 4	PTK2B-Hs00169444_m1	31,895	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 7	PGK1-Hs99999906_m1	25,609	25,379	25,379	-0,441	0,071	1,022	0,816
Endometriose	Endometriose 3	PIK3CA-Hs00907957_m1	29,415	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 7	CAV1-Hs00971716_m1	31,636	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 7	WASF2-Hs00819075_gH	32,168	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 10	MMP2-Hs01548727_m1	26,593	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 2	ROCK1-Hs01127699_m1	29,393	28,154	28,154	2,334	0,163	1,024	0,770
Endometriose	Endometriose 9	ACTN3-Hs00153812_m1	Undetermined	39,259	39,259	14,219	0,204		
Endometriose	Endometriose 2	RHO-Hs00892431_m1	Undetermined	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 11	ACTB-Hs01060665_g1	22,303	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 11	SH3PXD2A-Hs00206037_m1	29,691	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 5	18S-Hs99999901_s1	9,470	10,918	10,918	-14,902	0,736	1,145	0,255
Endometriose	Endometriose 9	BAIAP2-Hs00170734_m1	29,431	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 11	IGF1R-Hs00609566_m1	27,388	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 3	ACTB-Hs01060665_g1	21,173	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 5	MSN-Hs00741306_mH	24,073	25,899	25,899	0,079	0,347	0,966	0,819
Endometriose	Endometriose 7	18S-Hs99999901_s1	17,886	10,918	10,918	-14,902	0,736	1,145	0,255
Endometriose	Endometriose 5	PTEN-Hs02621230_s1	31,738	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 11	RAC2-Hs01036635_s1	32,226	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 11	MYH9-Hs00159522_m1	22,083	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 9	PLCG1-Hs01008225_m1	28,657	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 11	ITGB2-Hs00164957_m1	31,601	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 11	RPLP0-Hs99999902_m1	22,460	23,051	23,051	-2,769	0,188	1,291	0,289
Endometriose	Endometriose 9	ACTR2-Hs00855199_g1	27,776	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 8	ACTN3-Hs00153812_m1	Undetermined	39,259	39,259	14,219	0,204		

Endometriose	Endometriose 8	ITGB3-Hs01001469_m1	27,718	28,014	28,014	2,194	0,421	0,958	0,775
Endometriose	Endometriose 7	ACTR3-Hs00828586_m1	32,911	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 7	MAPK1-Hs01046830_m1	32,170	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 1	TLN1-Hs00196775_m1	27,661	26,770	26,770	0,950	0,369	0,911	0,775
Endometriose	Endometriose 5	MYH10-Hs00992055_m1	26,971	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 10	RAC1-Hs01902432_s1	30,682	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 5	MYH9-Hs00159522_m1	20,626	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 4	VEGFA-Hs00900055_m1	26,378	27,005	27,005	1,185	0,278	1,483	0,273
Endometriose	Endometriose 8	DPP4-Hs00175210_m1	31,345	30,898	30,898	5,078	0,850	1,100	0,475
Endometriose	Endometriose 5	PIK3CA-Hs00907957_m1	30,232	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 4	IPO8-Hs00183533_m1	28,162	28,636	28,636				
Endometriose	Endometriose 1	SRC-Hs01082246_m1	30,437	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 9	CSF1-Hs00174164_m1	28,658	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 2	ARF6-Hs01922781_g1	32,434	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 10	DPP4-Hs00175210_m1	33,362	30,898	30,898	5,078	0,850	1,100	0,475
Endometriose	Endometriose 3	GUSB-Hs99999908_m1	27,605	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 2	TGFB1-Hs00998133_m1	30,273	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 2	RAC2-Hs01036635_s1	32,046	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 9	MYLK-Hs00364926_m1	24,850	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 11	GAPDH-Hs02758991_g1	22,848	23,004	23,004				
Endometriose	Endometriose 2	CSF1-Hs00174164_m1	32,440	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 4	CAV1-Hs00971716_m1	23,973	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 4	BCAR1-Hs01547079_m1	26,941	28,788	28,788	2,968	0,820	0,725	0,838
Endometriose	Endometriose 10	TIMP2-Hs00234278_m1	26,504	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 11	MAPK1-Hs01046830_m1	26,585	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 4	SVIL-Hs00931022_m1	31,963	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 11	CAV1-Hs00971716_m1	24,696	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 10	CFL1-Hs02621564_g1	26,320	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 3	ARHGEF7-Hs00388776_m1	28,588	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 4	CDC42-Hs00918044_g1	26,262	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 10	VEGFA-Hs00900055_m1	28,063	27,005	27,005	1,185	0,278	1,483	0,273

Endometriose	Endometriose 10	MET-Hs01565584_m1	31,446	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 5	VCL-Hs00419715_m1	23,244	24,723	24,723	-1,097	0,238	0,971	0,871
Endometriose	Endometriose 8	GUSB-Hs99999908_m1	29,043	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 11	SRC-Hs01082246_m1	27,638	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 1	SVIL-Hs00931022_m1	32,573	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 7	MYLK-Hs00364926_m1	28,465	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 9	VASP-Hs01100128_m1	25,849	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 1	FAP-Hs00990806_m1	27,831	27,957	27,957	2,137	0,456	1,011	0,783
Endometriose	Endometriose 5	GAPDH-Hs02758991_g1	22,437	23,004	23,004				
Endometriose	Endometriose 7	VIM-Hs00185584_m1	22,823	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 4	EZR-Hs00931653_m1	24,556	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 2	POLR2A-Hs00172187_m1	30,524	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 8	PTPN1-Hs00942477_m1	29,466	28,945	28,945	3,125	0,167	1,081	0,816
Endometriose	Endometriose 2	WIPF1-Hs00277097_m1	30,934	29,145	29,145	3,325	0,257	1,070	0,485
Endometriose	Endometriose 8	PTK2-Hs01056457_m1	27,822	27,564	27,564	1,744	0,095	1,337	0,208
Endometriose	Endometriose 8	WASF1-Hs01591751_m1	32,130	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 5	MAPK1-Hs01046830_m1	26,616	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 9	IGF1R-Hs00609566_m1	26,280	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 10	18S-Hs99999901_s1	11,027	10,918	10,918	-14,902	0,736	1,145	0,255
Endometriose	Endometriose 1	MYH9-Hs00159522_m1	24,003	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 9	DIAPH1-Hs00946556_m1	28,333	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 3	LIMK1-Hs00242728_m1	28,885	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 9	ACTR3-Hs00828586_m1	25,498	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 9	RHOC-Hs00747110_s1	26,232	26,529	26,529	0,708	0,130	1,308	0,309
Endometriose	Endometriose 9	ITGB2-Hs00164957_m1	32,049	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 7	TIMP2-Hs00234278_m1	25,663	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 9	ACTB-Hs01060665_g1	20,777	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 5	RDX-Hs00988414_g1	27,645	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 11	PAK4-Hs01100061_m1	28,198	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 4	MYH10-Hs00992055_m1	25,156	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 10	ITGB1-Hs00559595_m1	25,382	25,337	25,337	-0,484	0,421	0,986	0,862

Endometriose	Endometriose 2	ARHGEF7-Hs00388776_m1	30,952	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 11	PPIA-Hs99999904_m1	23,436	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 4	VIM-Hs00185584_m1	21,409	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 7	ACTN1-Hs00998100_m1	32,157	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 10	DIAPH1-Hs00946556_m1	31,136	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 5	MYL9-Hs00697086_m1	21,017	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 7	AKT1-Hs00178289_m1	35,956	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 3	RHOB-Hs03676562_s1	26,693	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 5	PLAUR-Hs00958880_m1	25,910	27,439	27,439	1,618	0,366	1,104	0,850
Endometriose	Endometriose 11	CDC42-Hs00918044_g1	26,132	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 7	ITGB3-Hs01001469_m1	30,788	28,014	28,014	2,194	0,421	0,958	0,775
Endometriose	Endometriose 5	RHOA-Hs00357608_m1	22,864	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 3	VASP-Hs01100128_m1	26,245	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 4	PTK2-Hs01056457_m1	26,657	27,564	27,564	1,744	0,095	1,337	0,208
Endometriose	Endometriose 7	SVIL-Hs00931022_m1	32,038	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 5	CFL1-Hs02621564_g1	23,192	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 5	IPO8-Hs00183533_m1	28,390	28,636	28,636				
Endometriose	Endometriose 4	DPP4-Hs00175210_m1	26,507	30,898	30,898	5,078	0,850	1,100	0,475
Endometriose	Endometriose 1	ACTN4-Hs00245168_m1	26,034	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 11	FGF2-Hs00266645_m1	26,949	28,392	28,392	2,572	0,439	0,841	0,887
Endometriose	Endometriose 10	CSF1-Hs00174164_m1	32,496	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 3	EZR-Hs00931653_m1	24,145	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 2	SRC-Hs01082246_m1	31,567	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 10	RPLP0-Hs99999902_m1	22,999	23,051	23,051	-2,769	0,188	1,291	0,289
Endometriose	Endometriose 8	RHOB-Hs03676562_s1	27,370	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 7	PLAUR-Hs00958880_m1	30,752	27,439	27,439	1,618	0,366	1,104	0,850
Endometriose	Endometriose 1	POLR2A-Hs00172187_m1	29,554	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 11	RASA1-Hs00243115_m1	28,535	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 5	ARF6-Hs01922781_g1	28,927	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 2	ITGB1-Hs00559595_m1	25,696	25,337	25,337	-0,484	0,421	0,986	0,862
Endometriose	Endometriose 3	ARHGDIA-Hs00366348_g1	24,449	27,024	27,024	1,204	0,902	0,568	0,828

Endometriose	Endometriose 8	RHOC-Hs00747110_s1	27,275	26,529	26,529	0,708	0,130	1,308	0,309
Endometriose	Endometriose 2	ILK-Hs01101168_g1	25,991	25,190	25,190	-0,630	0,321	0,811	0,490
Endometriose	Endometriose 8	BAIAP2-Hs00170734_m1	30,665	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 3	WIPF1-Hs00277097_m1	27,694	29,145	29,145	3,325	0,257	1,070	0,485
Endometriose	Endometriose 10	EGF-Hs01099999_m1	36,798	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 4	AKT1-Hs00178289_m1	25,523	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 10	PTK2B-Hs00169444_m1	35,287	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 9	BCAR1-Hs01547079_m1	27,313	28,788	28,788	2,968	0,820	0,725	0,838
Endometriose	Endometriose 3	ITGB1-Hs00559595_m1	24,610	25,337	25,337	-0,484	0,421	0,986	0,862
Endometriose	Endometriose 8	PTK2B-Hs00169444_m1	34,608	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 8	IGF1-Hs01547656_m1	32,674	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 1	MYH10-Hs00992055_m1	27,740	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 9	SVIL-Hs00931022_m1	29,719	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 3	ITGB2-Hs00164957_m1	28,923	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 4	MMP14-Hs01037003_g1	24,901	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 1	RDX-Hs00988414_g1	28,279	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 4	RASA1-Hs00243115_m1	29,168	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 1	ITGA4-Hs00168433_m1	31,326	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 10	ACTN1-Hs00998100_m1	25,822	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 4	EGF-Hs01099999_m1	34,542	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 8	CAV1-Hs00971716_m1	26,205	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 10	PRKCA-Hs00925193_m1	30,070	27,807	27,807	1,987	0,318	0,849	0,982
Endometriose	Endometriose 8	SVIL-Hs00931022_m1	30,966	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 4	WASL-Hs00187614_m1	28,984	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 1	CFL1-Hs02621564_g1	25,480	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 8	POLR2A-Hs00172187_m1	29,535	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 7	MMP2-Hs01548727_m1	28,136	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 1	GUSB-Hs99999908_m1	28,785	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 5	VASP-Hs01100128_m1	25,906	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 11	VCL-Hs00419715_m1	23,798	24,723	24,723	-1,097	0,238	0,971	0,871
Endometriose	Endometriose 8	ILK-Hs01101168_g1	25,414	25,190	25,190	-0,630	0,321	0,811	0,490

Endometriose	Endometriose 2	ACTN1-Hs00998100_m1	25,646	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 3	PTK2B-Hs00169444_m1	31,434	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 11	LIMK1-Hs00242728_m1	28,717	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 7	ACTN4-Hs00245168_m1	32,957	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 8	PRKCA-Hs00925193_m1	28,202	27,807	27,807	1,987	0,318	0,849	0,982
Endometriose	Endometriose 4	ACTR2-Hs00855199_g1	28,617	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 1	MET-Hs01565584_m1	31,990	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 11	MSN-Hs00741306_mH	25,202	25,899	25,899	0,079	0,347	0,966	0,819
Endometriose	Endometriose 3	MAPK1-Hs01046830_m1	27,118	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 2	HPRT1-Hs02800695_m1	30,236	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 4	RPLP0-Hs99999902_m1	22,621	23,051	23,051	-2,769	0,188	1,291	0,289
Endometriose	Endometriose 11	HGF-Hs00300159_m1	37,528	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 10	AKT1-Hs00178289_m1	28,544	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 9	CTTN-Hs01124225_m1	26,283	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 11	VEGFA-Hs00900055_m1	24,961	27,005	27,005	1,185	0,278	1,483	0,273
Endometriose	Endometriose 11	MYLK-Hs00364926_m1	24,708	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 10	MYH9-Hs00159522_m1	25,620	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 8	VCL-Hs00419715_m1	25,397	24,723	24,723	-1,097	0,238	0,971	0,871
Endometriose	Endometriose 2	RHOA-Hs00357608_m1	24,648	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 10	PPIA-Hs99999904_m1	23,238	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 1	LIMK1-Hs00242728_m1	31,269	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 11	RHOA-Hs00357608_m1	23,767	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 1	ACTB-Hs01060665_g1	21,640	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 1	ITGB1-Hs00559595_m1	25,417	25,337	25,337	-0,484	0,421	0,986	0,862
Endometriose	Endometriose 4	ACTB-Hs01060665_g1	19,861	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 4	PRKCA-Hs00925193_m1	26,346	27,807	27,807	1,987	0,318	0,849	0,982
Endometriose	Endometriose 5	ROCK1-Hs01127699_m1	28,511	28,154	28,154	2,334	0,163	1,024	0,770
Endometriose	Endometriose 1	EZR-Hs00931653_m1	26,660	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 5	CDC42-Hs00918044_g1	26,317	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 2	EGF-Hs01099999_m1	35,963	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 8	IPO8-Hs00183533_m1	29,331	28,636	28,636				

Endometriose	Endometriose 7	GAPDH-Hs02758991_g1	23,725	23,004	23,004				
Endometriose	Endometriose 2	IGF1R-Hs00609566_m1	30,798	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 10	MAPK1-Hs01046830_m1	29,731	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 3	PTPN1-Hs00942477_m1	27,964	28,945	28,945	3,125	0,167	1,081	0,816
Endometriose	Endometriose 10	VIM-Hs00185584_m1	23,855	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 1	HPRT1-Hs02800695_m1	30,415	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 5	UBC-Hs00824723_m1	22,123	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 9	ARF6-Hs01922781_g1	30,033	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 8	CDC42-Hs00918044_g1	27,748	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 2	ENAH-Hs00403109_m1	31,259	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 4	WASF1-Hs01591751_m1	30,620	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 5	HPRT1-Hs02800695_m1	29,866	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 4	TLN1-Hs00196775_m1	24,664	26,770	26,770	0,950	0,369	0,911	0,775
Endometriose	Endometriose 11	RND3-Hs01003594_m1	24,030	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 8	MYL9-Hs00697086_m1	22,805	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 9	EGF-Hs01099999_m1	32,136	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 8	MSN-Hs00741306_mH	25,786	25,899	25,899	0,079	0,347	0,966	0,819
Endometriose	Endometriose 9	SRC-Hs01082246_m1	28,056	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 8	MAPK1-Hs01046830_m1	28,642	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 1	B2M-Hs00984230_m1	22,472	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 5	SH3PXD2A-Hs00206037_m1	30,849	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 9	ITGB1-Hs00559595_m1	24,238	25,337	25,337	-0,484	0,421	0,986	0,862
Endometriose	Endometriose 5	DIAPH1-Hs00946556_m1	27,770	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 1	ACTN3-Hs00153812_m1	Undetermined	39,259	39,259	14,219	0,204		
Endometriose	Endometriose 2	WASF2-Hs00819075_gH	32,339	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 1	MMP2-Hs01548727_m1	25,466	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 11	ARF6-Hs01922781_g1	28,531	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 9	WIPF1-Hs00277097_m1	27,403	29,145	29,145	3,325	0,257	1,070	0,485
Endometriose	Endometriose 3	MYH9-Hs00159522_m1	21,692	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 5	PXN-Hs01104424_m1	25,870	27,259	27,259	1,439	0,297	1,054	0,753
Endometriose	Endometriose 1	PGK1-Hs99999906_m1	26,345	25,379	25,379	-0,441	0,071	1,022	0,816

Endometriose	Endometriose 3	EGF-Hs01099999_m1	34,275	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 3	RHOC-Hs00747110_s1	25,816	26,529	26,529	0,708	0,130	1,308	0,309
Endometriose	Endometriose 5	RHOC-Hs00747110_s1	25,855	26,529	26,529	0,708	0,130	1,308	0,309
Endometriose	Endometriose 9	LIMK1-Hs00242728_m1	28,906	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 1	CDC42-Hs00918044_g1	27,928	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 7	FGF2-Hs00266645_m1	32,467	28,392	28,392	2,572	0,439	0,841	0,887
Endometriose	Endometriose 3	PAK4-Hs01100061_m1	27,671	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 7	DIAPH1-Hs00946556_m1	37,316	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 11	RHOB-Hs03676562_s1	27,133	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 2	CAPN1-Hs00559804_m1	28,844	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 5	ENAH-Hs00403109_m1	28,693	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 11	VIM-Hs00185584_m1	22,450	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 1	BCAR1-Hs01547079_m1	28,978	28,788	28,788	2,968	0,820	0,725	0,838
Endometriose	Endometriose 2	MYH9-Hs00159522_m1	25,349	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 10	ACTR3-Hs00828586_m1	26,990	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 4	MMP9-Hs00234579_m1	Undetermined	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 4	HPRT1-Hs02800695_m1	29,198	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 11	TLN1-Hs00196775_m1	25,686	26,770	26,770	0,950	0,369	0,911	0,775
Endometriose	Endometriose 3	TGFB1-Hs00998133_m1	28,528	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 2	PLCG1-Hs01008225_m1	31,167	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 10	PTEN-Hs02621230_s1	31,699	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 3	MMP9-Hs00234579_m1	29,581	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 4	POLR2A-Hs00172187_m1	27,209	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 9	ARHGEF7-Hs00388776_m1	28,718	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 10	SH3PXD2A-Hs00206037_m1	31,787	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 5	CSF1-Hs00174164_m1	24,248	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 3	ILK-Hs01101168_g1	23,865	25,190	25,190	-0,630	0,321	0,811	0,490
Endometriose	Endometriose 5	PPIA-Hs99999904_m1	22,410	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 2	PIK3CA-Hs00907957_m1	30,528	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 11	ARHGDIA-Hs00366348_g1	25,648	27,024	27,024	1,204	0,902	0,568	0,828
Endometriose	Endometriose 7	IPO8-Hs00183533_m1	28,992	28,636	28,636				

Endometriose	Endometriose 2	RASA1-Hs00243115_m1	31,578	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 10	ACTB-Hs01060665_g1	22,902	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 3	WASF1-Hs01591751_m1	30,819	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 3	PFN1-Hs00748915_s1	25,909	27,630	27,630	1,810	0,188	1,040	0,790
Endometriose	Endometriose 4	WASF2-Hs00819075_gH	29,229	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 11	EGFR-Hs01076078_m1	27,869	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 5	ITGB1-Hs00559595_m1	25,012	25,337	25,337	-0,484	0,421	0,986	0,862
Endometriose	Endometriose 4	UBC-Hs00824723_m1	23,820	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 2	RHOC-Hs00747110_s1	27,032	26,529	26,529	0,708	0,130	1,308	0,309
Endometriose	Endometriose 1	ACTR3-Hs00828586_m1	26,993	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 2	PLD1-Hs00160118_m1	31,135	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 7	VEGFA-Hs00900055_m1	28,695	27,005	27,005	1,185	0,278	1,483	0,273
Endometriose	Endometriose 9	RDX-Hs00988414_g1	26,841	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 7	MET-Hs01565584_m1	32,814	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 8	GAPDH-Hs02758991_g1	23,821	23,004	23,004				
Endometriose	Endometriose 4	ITGB1-Hs00559595_m1	24,735	25,337	25,337	-0,484	0,421	0,986	0,862
Endometriose	Endometriose 7	ACTB-Hs01060665_g1	22,800	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 3	IGF1R-Hs00609566_m1	27,799	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 9	CDC42-Hs00918044_g1	26,535	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 8	UBC-Hs00824723_m1	23,907	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 9	PRKCA-Hs00925193_m1	26,200	27,807	27,807	1,987	0,318	0,849	0,982
Endometriose	Endometriose 3	PLD1-Hs00160118_m1	28,587	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 1	EGFR-Hs01076078_m1	29,997	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 10	PLAUR-Hs00958880_m1	28,555	27,439	27,439	1,618	0,366	1,104	0,850
Endometriose	Endometriose 9	RHO-Hs00892431_m1	39,351	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 8	MYH10-Hs00992055_m1	27,194	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 1	ITGB3-Hs01001469_m1	29,808	28,014	28,014	2,194	0,421	0,958	0,775
Endometriose	Endometriose 4	MYL9-Hs00697086_m1	20,666	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 7	CDC42-Hs00918044_g1	33,928	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 9	ILK-Hs01101168_g1	23,620	25,190	25,190	-0,630	0,321	0,811	0,490
Endometriose	Endometriose 3	RPLP0-Hs99999902_m1	22,030	23,051	23,051	-2,769	0,188	1,291	0,289

Endometriose	Endometriose 5	BCAR1-Hs01547079_m1	26,986	28,788	28,788	2,968	0,820	0,725	0,838
Endometriose	Endometriose 5	WASF2-Hs00819075_gH	28,146	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 11	PLCG1-Hs01008225_m1	28,316	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 7	RAC1-Hs01902432_s1	33,490	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 8	PGK1-Hs99999906_m1	26,110	25,379	25,379	-0,441	0,071	1,022	0,816
Endometriose	Endometriose 10	MMP9-Hs00234579_m1	34,236	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 9	MYH9-Hs00159522_m1	21,104	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 8	HPRT1-Hs02800695_m1	30,729	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 7	PIK3CA-Hs00907957_m1	33,200	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 7	PLD1-Hs00160118_m1	31,344	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 7	STAT3-Hs00374280_m1	29,554	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 5	TLN1-Hs00196775_m1	25,009	26,770	26,770	0,950	0,369	0,911	0,775
Endometriose	Endometriose 3	STAT3-Hs00374280_m1	27,614	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 3	PGK1-Hs99999906_m1	24,388	25,379	25,379	-0,441	0,071	1,022	0,816
Endometriose	Endometriose 1	BAIAP2-Hs00170734_m1	30,503	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 5	CRK-Hs00180418_m1	26,967	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 2	18S-Hs99999901_s1	11,439	10,918	10,918	-14,902	0,736	1,145	0,255
Endometriose	Endometriose 11	IPO8-Hs00183533_m1	27,168	28,636	28,636				
Endometriose	Endometriose 2	ARHGDIA-Hs00366348_g1	27,779	27,024	27,024	1,204	0,902	0,568	0,828
Endometriose	Endometriose 5	PAK4-Hs01100061_m1	27,625	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 5	FGF2-Hs00266645_m1	28,628	28,392	28,392	2,572	0,439	0,841	0,887
Endometriose	Endometriose 3	DIAPH1-Hs00946556_m1	27,783	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 4	MYH9-Hs00159522_m1	21,057	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 9	FGF2-Hs00266645_m1	26,083	28,392	28,392	2,572	0,439	0,841	0,887
Endometriose	Endometriose 5	BAIAP2-Hs00170734_m1	28,593	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 11	CAPN1-Hs00559804_m1	25,723	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 11	ITGB3-Hs01001469_m1	26,988	28,014	28,014	2,194	0,421	0,958	0,775
Endometriose	Endometriose 2	ACTB-Hs01060665_g1	22,996	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 2	MSN-Hs00741306_mH	27,361	25,899	25,899	0,079	0,347	0,966	0,819
Endometriose	Endometriose 8	ARHGEF7-Hs00388776_m1	29,435	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 10	PAK1-Hs00945621_m1	30,422	28,972	28,972	3,152	0,257	1,415	0,281

Endometriose	Endometriose 5	SVIL-Hs00931022_m1	28,157	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 5	B2M-Hs00984230_m1	20,919	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 10	GAPDH-Hs02758991_g1	23,541	23,004	23,004				
Endometriose	Endometriose 10	BAIAP2-Hs00170734_m1	31,476	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 2	PLAUR-Hs00958880_m1	28,197	27,439	27,439	1,618	0,366	1,104	0,850
Endometriose	Endometriose 10	MSN-Hs00741306_mH	27,951	25,899	25,899	0,079	0,347	0,966	0,819
Endometriose	Endometriose 9	WASL-Hs00187614_m1	29,140	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 10	STAT3-Hs00374280_m1	29,449	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 1	AKT1-Hs00178289_m1	27,566	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 9	PIK3CA-Hs00907957_m1	29,761	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 10	MYLK-Hs00364926_m1	27,325	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 5	PTPN1-Hs00942477_m1	27,647	28,945	28,945	3,125	0,167	1,081	0,816
Endometriose	Endometriose 10	VASP-Hs01100128_m1	27,900	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 7	RHOA-Hs00357608_m1	24,066	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 9	FAP-Hs00990806_m1	27,019	27,957	27,957	2,137	0,456	1,011	0,783
Endometriose	Endometriose 9	ENAH-Hs00403109_m1	26,432	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 8	VEGFA-Hs00900055_m1	27,464	27,005	27,005	1,185	0,278	1,483	0,273
Endometriose	Endometriose 2	CRK-Hs00180418_m1	29,816	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 3	MYH10-Hs00992055_m1	26,076	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 10	B2M-Hs00984230_m1	20,442	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 11	WASL-Hs00187614_m1	28,122	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 1	MYLK-Hs00364926_m1	26,441	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 9	RHOB-Hs03676562_s1	27,246	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 11	EGF-Hs01099999_m1	36,644	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 3	CAPN1-Hs00559804_m1	25,566	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 3	ACTN1-Hs00998100_m1	23,182	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 11	PXN-Hs01104424_m1	26,339	27,259	27,259	1,439	0,297	1,054	0,753
Endometriose	Endometriose 9	RASA1-Hs00243115_m1	28,268	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 1	ARHGEF7-Hs00388776_m1	30,107	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 3	MYL9-Hs00697086_m1	21,326	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 1	PRKCA-Hs00925193_m1	28,243	27,807	27,807	1,987	0,318	0,849	0,982

Endometriose	Endometriose 4	PAK1-Hs00945621_m1	28,332	28,972	28,972	3,152	0,257	1,415	0,281
Endometriose	Endometriose 1	RASA1-Hs00243115_m1	30,589	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 11	AKT1-Hs00178289_m1	26,280	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 10	ILK-Hs01101168_g1	26,250	25,190	25,190	-0,630	0,321	0,811	0,490
Endometriose	Endometriose 11	PLD1-Hs00160118_m1	27,069	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 4	RAC2-Hs01036635_s1	29,492	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 4	PLD1-Hs00160118_m1	29,325	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 9	MET-Hs01565584_m1	27,572	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 8	PPIA-Hs99999904_m1	23,457	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 8	RHO-Hs00892431_m1	Undetermined	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 2	MMP9-Hs00234579_m1	35,282	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 7	PLCG1-Hs01008225_m1	32,717	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 8	VASP-Hs01100128_m1	27,509	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 7	GUSB-Hs99999908_m1	29,329	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 10	EZR-Hs00931653_m1	27,809	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 10	POLR2A-Hs00172187_m1	30,736	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 9	RND3-Hs01003594_m1	26,370	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 1	ACTN1-Hs00998100_m1	25,045	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 5	POLR2A-Hs00172187_m1	26,385	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 2	ITGB2-Hs00164957_m1	34,267	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 3	HPRT1-Hs02800695_m1	28,972	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 1	PFN1-Hs00748915_s1	29,174	27,630	27,630	1,810	0,188	1,040	0,790
Endometriose	Endometriose 10	PFN1-Hs00748915_s1	28,520	27,630	27,630	1,810	0,188	1,040	0,790
Endometriose	Endometriose 9	EZR-Hs00931653_m1	24,552	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 5	IGF1-Hs01547656_m1	35,868	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 1	ENAH-Hs00403109_m1	29,505	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 2	MYLK-Hs00364926_m1	27,878	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 11	WASF1-Hs01591751_m1	30,029	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 7	MYL9-Hs00697086_m1	23,985	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 1	EGF-Hs01099999_m1	37,338	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 5	ACTN3-Hs00153812_m1	Undetermined	39,259	39,259	14,219	0,204		

Endometriose	Endometriose 3	SRC-Hs01082246_m1	28,738	29,468	29,468	3,648	0,265	1,293	0,319
Endometriose	Endometriose 2	PTK2B-Hs00169444_m1	34,985	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 5	ARHGEF7-Hs00388776_m1	27,968	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 7	B2M-Hs00984230_m1	22,580	21,569	21,569	-4,251	0,286	2,011	0,095
Endometriose	Endometriose 10	RDX-Hs00988414_g1	28,443	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 5	MET-Hs01565584_m1	29,919	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 4	ROCK1-Hs01127699_m1	27,420	28,154	28,154	2,334	0,163	1,024	0,770
Endometriose	Endometriose 4	PFN1-Hs00748915_s1	26,932	27,630	27,630	1,810	0,188	1,040	0,790
Endometriose	Endometriose 3	TIMP2-Hs00234278_m1	22,992	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 11	EZR-Hs00931653_m1	26,196	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 10	CRK-Hs00180418_m1	29,778	28,591	28,591	2,771	0,594	0,928	0,765
Endometriose	Endometriose 8	PLAUR-Hs00958880_m1	26,984	27,439	27,439	1,618	0,366	1,104	0,850
Endometriose	Endometriose 10	SVIL-Hs00931022_m1	32,570	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 9	ACTN1-Hs00998100_m1	22,760	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 8	PFN1-Hs00748915_s1	28,717	27,630	27,630	1,810	0,188	1,040	0,790
Endometriose	Endometriose 3	ENAH-Hs00403109_m1	28,287	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 4	LIMK1-Hs00242728_m1	29,120	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 9	GUSB-Hs99999908_m1	28,354	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 3	POLR2A-Hs00172187_m1	27,506	28,774	28,774	2,954	0,334	0,821	0,920
Endometriose	Endometriose 8	RASA1-Hs00243115_m1	30,316	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 2	ACTN4-Hs00245168_m1	26,952	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 8	PXN-Hs01104424_m1	28,245	27,259	27,259	1,439	0,297	1,054	0,753
Endometriose	Endometriose 1	PAK1-Hs00945621_m1	29,178	28,972	28,972	3,152	0,257	1,415	0,281
Endometriose	Endometriose 3	ITGB3-Hs01001469_m1	26,170	28,014	28,014	2,194	0,421	0,958	0,775
Endometriose	Endometriose 9	IGF1-Hs01547656_m1	35,521	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 4	ARF6-Hs01922781_g1	29,322	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 4	RHOC-Hs00747110_s1	25,668	26,529	26,529	0,708	0,130	1,308	0,309
Endometriose	Endometriose 5	VEGFA-Hs00900055_m1	25,007	27,005	27,005	1,185	0,278	1,483	0,273
Endometriose	Endometriose 9	ITGB3-Hs01001469_m1	26,464	28,014	28,014	2,194	0,421	0,958	0,775
Endometriose	Endometriose 2	MET-Hs01565584_m1	31,404	30,543	30,543	4,723	0,372	0,499	0,192
Endometriose	Endometriose 3	TLN1-Hs00196775_m1	25,596	26,770	26,770	0,950	0,369	0,911	0,775

Endometriose	Endometriose 1	18S-Hs99999901_s1	11,209	10,918	10,918	-14,902	0,736	1,145	0,255
Endometriose	Endometriose 9	VIM-Hs00185584_m1	21,067	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 5	ACTR2-Hs00855199_g1	28,720	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 5	EGF-Hs01099999_m1	37,097	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 11	PTPN1-Hs00942477_m1	28,070	28,945	28,945	3,125	0,167	1,081	0,816
Endometriose	Endometriose 2	GAPDH-Hs02758991_g1	23,785	23,004	23,004				
Endometriose	Endometriose 10	ITGA4-Hs00168433_m1	31,758	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 4	18S-Hs99999901_s1	10,046	10,918	10,918	-14,902	0,736	1,145	0,255
Endometriose	Endometriose 5	PAK1-Hs00945621_m1	27,508	28,972	28,972	3,152	0,257	1,415	0,281
Endometriose	Endometriose 1	VCL-Hs00419715_m1	25,375	24,723	24,723	-1,097	0,238	0,971	0,871
Endometriose	Endometriose 1	PXN-Hs01104424_m1	28,029	27,259	27,259	1,439	0,297	1,054	0,753
Endometriose	Endometriose 11	SVIL-Hs00931022_m1	30,636	31,012	31,012	5,192	0,388	2,298	0,171
Endometriose	Endometriose 11	FAP-Hs00990806_m1	25,625	27,957	27,957	2,137	0,456	1,011	0,783
Endometriose	Endometriose 7	TGFB1-Hs00998133_m1	30,818	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 11	HPRT1-Hs02800695_m1	30,039	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 4	MAPK1-Hs01046830_m1	27,283	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 4	CAPN1-Hs00559804_m1	25,811	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 8	LIMK1-Hs00242728_m1	30,666	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 2	CAPN2-Hs00965097_m1	27,240	26,193	26,193	0,373	0,730	0,723	0,862
Endometriose	Endometriose 5	CAPN2-Hs00965097_m1	24,392	26,193	26,193	0,373	0,730	0,723	0,862
Endometriose	Endometriose 7	ITGA4-Hs00168433_m1	33,644	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 7	PTEN-Hs02621230_s1	32,465	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 11	CSF1-Hs00174164_m1	27,481	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 7	PTK2B-Hs00169444_m1	34,508	33,273	33,273	7,452	0,325	1,729	0,217
Endometriose	Endometriose 10	ARHGDIA-Hs00366348_g1	28,136	27,024	27,024	1,204	0,902	0,568	0,828
Endometriose	Endometriose 9	MSN-Hs00741306_mH	23,968	25,899	25,899	0,079	0,347	0,966	0,819
Endometriose	Endometriose 5	MYLK-Hs00364926_m1	25,195	26,230	26,230	0,410	0,292	1,137	0,954
Endometriose	Endometriose 8	PIK3CA-Hs00907957_m1	30,600	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 8	ACTR3-Hs00828586_m1	26,672	26,911	26,911	1,090	0,617	0,612	0,246
Endometriose	Endometriose 1	CTTN-Hs01124225_m1	27,920	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 5	FAP-Hs00990806_m1	28,818	27,957	27,957	2,137	0,456	1,011	0,783

Endometriose	Endometriose 2	MYL9-Hs00697086_m1	23,229	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 7	CTTN-Hs01124225_m1	34,219	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 3	ARF6-Hs01922781_g1	29,067	30,437	30,437	4,677	0,315	1,990	0,357
Endometriose	Endometriose 7	MYH9-Hs00159522_m1	25,172	23,028	23,028	-2,792	0,417	1,180	0,584
Endometriose	Endometriose 8	RHOA-Hs00357608_m1	24,421	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 11	RDX-Hs00988414_g1	26,981	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 10	RHO-Hs00892431_m1	Undetermined	39,489	39,489	14,406	0,194		
Endometriose	Endometriose 11	CAPN2-Hs00965097_m1	24,519	26,193	26,193	0,373	0,730	0,723	0,862
Endometriose	Endometriose 2	VASP-Hs01100128_m1	27,541	26,944	26,944	1,124	0,136	0,746	0,139
Endometriose	Endometriose 5	PLD1-Hs00160118_m1	28,360	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 9	RAC2-Hs01036635_s1	29,605	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 7	VCL-Hs00419715_m1	26,074	24,723	24,723	-1,097	0,238	0,971	0,871
Endometriose	Endometriose 7	WASF1-Hs01591751_m1	33,695	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 9	HPRT1-Hs02800695_m1	29,359	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 4	ITGA4-Hs00168433_m1	29,310	31,006	31,006	5,186	0,390	0,552	0,123
Endometriose	Endometriose 10	CDC42-Hs00918044_g1	28,002	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 4	IGF1R-Hs00609566_m1	27,277	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 3	RASA1-Hs00243115_m1	28,985	30,012	30,012	4,191	0,268	1,201	0,457
Endometriose	Endometriose 5	MMP14-Hs01037003_g1	21,976	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 4	VCL-Hs00419715_m1	23,063	24,723	24,723	-1,097	0,238	0,971	0,871
Endometriose	Endometriose 11	ACTN3-Hs00153812_m1	39,024	39,259	39,259	14,219	0,204		
Endometriose	Endometriose 7	CAPN1-Hs00559804_m1	35,248	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 3	MSN-Hs00741306_mH	24,672	25,899	25,899	0,079	0,347	0,966	0,819
Endometriose	Endometriose 1	WASL-Hs00187614_m1	30,369	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 4	CTTN-Hs01124225_m1	26,269	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 5	AKT1-Hs00178289_m1	25,343	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 1	RHOB-Hs03676562_s1	28,919	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 7	ACTN3-Hs00153812_m1	Undetermined	39,259	39,259	14,219	0,204		
Endometriose	Endometriose 10	UBC-Hs00824723_m1	23,722	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 1	RHOA-Hs00357608_m1	24,422	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 1	FGF2-Hs00266645_m1	28,764	28,392	28,392	2,572	0,439	0,841	0,887

Endometriose	Endometriose 7	HPRT1-Hs02800695_m1	29,903	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 2	WASF1-Hs01591751_m1	33,519	31,789	31,789	5,969	0,226	1,174	0,565
Endometriose	Endometriose 10	PLCG1-Hs01008225_m1	31,549	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 3	WASL-Hs00187614_m1	29,287	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 8	MMP9-Hs00234579_m1	34,737	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 3	MMP2-Hs01548727_m1	23,419	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 9	MYH10-Hs00992055_m1	26,238	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 8	EGFR-Hs01076078_m1	29,253	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 9	MMP14-Hs01037003_g1	24,289	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 4	RHOB-Hs03676562_s1	26,879	27,457	27,457	1,637	0,183	1,729	0,052
Endometriose	Endometriose 4	MSN-Hs00741306_mH	24,658	25,899	25,899	0,079	0,347	0,966	0,819
Endometriose	Endometriose 5	ACTB-Hs01060665_g1	21,347	21,746	21,746	-4,074	0,238	0,878	0,744
Endometriose	Endometriose 1	HGF-Hs00300159_m1	32,500	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 10	LIMK1-Hs00242728_m1	32,707	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 1	CAV1-Hs00971716_m1	25,966	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 8	ACTR2-Hs00855199_g1	29,721	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 8	PTEN-Hs02621230_s1	31,405	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 1	GAPDH-Hs02758991_g1	23,587	23,004	23,004				
Endometriose	Endometriose 1	VEGFA-Hs00900055_m1	27,634	27,005	27,005	1,185	0,278	1,483	0,273
Endometriose	Endometriose 9	PPIA-Hs99999904_m1	22,538	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 5	ACTN1-Hs00998100_m1	22,217	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 7	RHOC-Hs00747110_s1	26,634	26,529	26,529	0,708	0,130	1,308	0,309
Endometriose	Endometriose 2	IPO8-Hs00183533_m1	29,347	28,636	28,636				
Endometriose	Endometriose 1	IGF1R-Hs00609566_m1	29,230	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 1	PAK4-Hs01100061_m1	30,341	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 7	EGF-Hs01099999_m1	Undetermined	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 9	GAPDH-Hs02758991_g1	22,162	23,004	23,004				
Endometriose	Endometriose 10	PLD1-Hs00160118_m1	30,567	29,442	29,442	3,622	0,284	2,894	0,018
Endometriose	Endometriose 5	TIMP2-Hs00234278_m1	21,079	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 3	PTEN-Hs02621230_s1	31,223	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 11	18S-Hs99999901_s1	8,029	10,918	10,918	-14,902	0,736	1,145	0,255

Endometriose	Endometriose 8	TGFB1-Hs00998133_m1	29,524	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 7	MMP14-Hs01037003_g1	30,912	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 10	PAK4-Hs01100061_m1	31,025	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 11	CFL1-Hs02621564_g1	24,075	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 7	LIMK1-Hs00242728_m1	38,132	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 2	LIMK1-Hs00242728_m1	32,921	30,907	30,907	5,087	0,831	0,901	0,304
Endometriose	Endometriose 9	PAK4-Hs01100061_m1	27,807	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 2	PXN-Hs01104424_m1	29,107	27,259	27,259	1,439	0,297	1,054	0,753
Endometriose	Endometriose 8	CFL1-Hs02621564_g1	25,149	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 8	ROCK1-Hs01127699_m1	28,622	28,154	28,154	2,334	0,163	1,024	0,770
Endometriose	Endometriose 9	PFN1-Hs00748915_s1	26,225	27,630	27,630	1,810	0,188	1,040	0,790
Endometriose	Endometriose 8	ARHGDIA-Hs00366348_g1	26,878	27,024	27,024	1,204	0,902	0,568	0,828
Endometriose	Endometriose 1	TIMP2-Hs00234278_m1	24,971	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 7	PFN1-Hs00748915_s1	28,494	27,630	27,630	1,810	0,188	1,040	0,790
Endometriose	Endometriose 1	CAPN1-Hs00559804_m1	27,773	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 2	ACTR2-Hs00855199_g1	30,967	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 11	PTEN-Hs02621230_s1	30,819	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 1	PLCG1-Hs01008225_m1	30,430	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 1	TGFB1-Hs00998133_m1	29,542	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 10	GUSB-Hs99999908_m1	29,516	28,473	28,473	2,653	0,128	1,509	0,010
Endometriose	Endometriose 7	ARHGDIA-Hs00366348_g1	35,444	27,024	27,024	1,204	0,902	0,568	0,828
Endometriose	Endometriose 8	CSF1-Hs00174164_m1	30,684	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 11	UBC-Hs00824723_m1	21,634	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 4	ACTN3-Hs00153812_m1	Undetermined	39,259	39,259	14,219	0,204		
Endometriose	Endometriose 3	PPIA-Hs99999904_m1	21,933	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 11	PTK2-Hs01056457_m1	26,846	27,564	27,564	1,744	0,095	1,337	0,208
Endometriose	Endometriose 2	PTK2-Hs01056457_m1	28,819	27,564	27,564	1,744	0,095	1,337	0,208
Endometriose	Endometriose 3	PLAUR-Hs00958880_m1	25,812	27,439	27,439	1,618	0,366	1,104	0,850
Endometriose	Endometriose 3	ACTR2-Hs00855199_g1	28,155	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 1	DIAPH1-Hs00946556_m1	30,111	29,931	29,931	4,111	0,791	0,670	0,965
Endometriose	Endometriose 7	BCAR1-Hs01547079_m1	36,578	28,788	28,788	2,968	0,820	0,725	0,838

Endometriose	Endometriose 7	ENAH-Hs00403109_m1	38,094	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 9	MAPK1-Hs01046830_m1	26,952	28,333	28,333	2,513	0,407	0,890	0,890
Endometriose	Endometriose 4	CAPN2-Hs00965097_m1	24,333	26,193	26,193	0,373	0,730	0,723	0,862
Endometriose	Endometriose 1	UBC-Hs00824723_m1	24,693	23,370	23,370	-2,450	0,212	1,157	0,405
Endometriose	Endometriose 9	PTEN-Hs02621230_s1	31,286	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 3	CSF1-Hs00174164_m1	29,864	30,049	30,049	4,229	0,968	1,491	0,304
Endometriose	Endometriose 8	ACTN1-Hs00998100_m1	24,409	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 11	ACTR2-Hs00855199_g1	28,012	29,994	29,994	4,174	0,773	0,848	0,922
Endometriose	Endometriose 2	PGK1-Hs99999906_m1	26,387	25,379	25,379	-0,441	0,071	1,022	0,816
Endometriose	Endometriose 4	PPIA-Hs99999904_m1	22,605	22,927	22,927	-2,893			0,933
Endometriose	Endometriose 1	ITGB2-Hs00164957_m1	33,812	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 8	PLCG1-Hs01008225_m1	29,995	29,722	29,722	3,902	0,367	1,113	0,473
Endometriose	Endometriose 10	PGK1-Hs99999906_m1	26,294	25,379	25,379	-0,441	0,071	1,022	0,816
Endometriose	Endometriose 11	MYL9-Hs00697086_m1	22,029	22,240	22,240	-3,580	0,225	0,942	0,518
Endometriose	Endometriose 2	CFL1-Hs02621564_g1	26,198	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 8	EZR-Hs00931653_m1	27,399	26,530	26,530	0,710	0,494	0,691	0,733
Endometriose	Endometriose 10	PTPN1-Hs00942477_m1	30,402	28,945	28,945	3,125	0,167	1,081	0,816
Endometriose	Endometriose 3	VEGFA-Hs00900055_m1	26,824	27,005	27,005	1,185	0,278	1,483	0,273
Endometriose	Endometriose 3	BCAR1-Hs01547079_m1	27,027	28,788	28,788	2,968	0,820	0,725	0,838
Endometriose	Endometriose 7	HGF-Hs00300159_m1	38,598	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 2	PFN1-Hs00748915_s1	28,264	27,630	27,630	1,810	0,188	1,040	0,790
Endometriose	Endometriose 7	MMP9-Hs00234579_m1	38,456	34,458	34,458	8,212	1,214	11,371	0,272
Endometriose	Endometriose 7	SH3PXD2A-Hs00206037_m1	31,593	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 3	IGF1-Hs01547656_m1	32,388	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 3	FGF2-Hs00266645_m1	27,505	28,392	28,392	2,572	0,439	0,841	0,887
Endometriose	Endometriose 10	MYH10-Hs00992055_m1	28,971	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 8	18S-Hs99999901_s1	10,736	10,918	10,918	-14,902	0,736	1,145	0,255
Endometriose	Endometriose 7	ITGB1-Hs00559595_m1	29,397	25,337	25,337	-0,484	0,421	0,986	0,862
Endometriose	Endometriose 11	ARHGEF7-Hs00388776_m1	27,981	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 3	HGF-Hs00300159_m1	34,527	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 1	RHOC-Hs00747110_s1	27,555	26,529	26,529	0,708	0,130	1,308	0,309

Endometriose	Endometriose 2	TIMP2-Hs00234278_m1	26,151	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 10	HPRT1-Hs02800695_m1	29,974	29,869	29,869	4,049	0,155	1,086	0,523
Endometriose	Endometriose 3	RDX-Hs00988414_g1	26,786	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 9	PXN-Hs01104424_m1	25,548	27,259	27,259	1,439	0,297	1,054	0,753
Endometriose	Endometriose 3	RAC2-Hs01036635_s1	30,203	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 2	VCL-Hs00419715_m1	26,466	24,723	24,723	-1,097	0,238	0,971	0,871
Endometriose	Endometriose 8	ITGB2-Hs00164957_m1	32,150	32,820	32,820	7,000	0,632	3,431	0,477
Endometriose	Endometriose 1	RAC1-Hs01902432_s1	29,990	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 2	TLN1-Hs00196775_m1	29,105	26,770	26,770	0,950	0,369	0,911	0,775
Endometriose	Endometriose 8	CTTN-Hs01124225_m1	28,410	28,211	28,211	2,391	0,653	0,743	0,831
Endometriose	Endometriose 3	CAPN2-Hs00965097_m1	24,636	26,193	26,193	0,373	0,730	0,723	0,862
Endometriose	Endometriose 9	18S-Hs99999901_s1	9,642	10,918	10,918	-14,902	0,736	1,145	0,255
Endometriose	Endometriose 11	ENAH-Hs00403109_m1	27,378	29,763	29,763	3,943	0,909	0,575	0,797
Endometriose	Endometriose 11	ILK-Hs01101168_g1	24,611	25,190	25,190	-0,630	0,321	0,811	0,490
Endometriose	Endometriose 8	MMP2-Hs01548727_m1	24,126	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 5	WIPF1-Hs00277097_m1	28,103	29,145	29,145	3,325	0,257	1,070	0,485
Endometriose	Endometriose 5	HGF-Hs00300159_m1	34,529	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 4	WIPF1-Hs00277097_m1	27,779	29,145	29,145	3,325	0,257	1,070	0,485
Endometriose	Endometriose 2	IGF1-Hs01547656_m1	33,456	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 8	TLN1-Hs00196775_m1	27,318	26,770	26,770	0,950	0,369	0,911	0,775
Endometriose	Endometriose 7	CFL1-Hs02621564_g1	32,035	25,290	25,290	-0,530	0,716	0,749	0,941
Endometriose	Endometriose 10	VCL-Hs00419715_m1	26,607	24,723	24,723	-1,097	0,238	0,971	0,871
Endometriose	Endometriose 5	VIM-Hs00185584_m1	21,559	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 1	STAT3-Hs00374280_m1	28,556	28,058	28,058	2,238	0,199	1,204	0,362
Endometriose	Endometriose 5	WASL-Hs00187614_m1	29,207	29,787	29,787	3,967	0,114	1,508	0,151
Endometriose	Endometriose 3	ACTN4-Hs00245168_m1	23,220	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 1	RND3-Hs01003594_m1	27,124	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 11	BCAR1-Hs01547079_m1	27,476	28,788	28,788	2,968	0,820	0,725	0,838
Endometriose	Endometriose 10	ARHGEF7-Hs00388776_m1	30,923	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 5	MMP2-Hs01548727_m1	22,533	24,611	24,611	-1,210	0,446	1,321	0,287
Endometriose	Endometriose 1	PTK2-Hs01056457_m1	27,933	27,564	27,564	1,744	0,095	1,337	0,208

Endometriose	Endometriose 5	EGFR-Hs01076078_m1	28,193	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 4	PLAUR-Hs00958880_m1	26,943	27,439	27,439	1,618	0,366	1,104	0,850
Endometriose	Endometriose 8	AKT1-Hs00178289_m1	27,204	27,544	27,544	1,724	0,895	0,722	0,804
Endometriose	Endometriose 9	VEGFA-Hs00900055_m1	26,215	27,005	27,005	1,185	0,278	1,483	0,273
Endometriose	Endometriose 8	WASF2-Hs00819075_gH	31,282	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 11	WASF2-Hs00819075_gH	28,715	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 5	CAV1-Hs00971716_m1	24,449	25,628	25,628	-0,192	0,631	0,403	0,061
Endometriose	Endometriose 11	TIMP2-Hs00234278_m1	21,997	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 10	CAPN2-Hs00965097_m1	26,981	26,193	26,193	0,373	0,730	0,723	0,862
Endometriose	Endometriose 1	PTEN-Hs02621230_s1	31,682	31,523	31,523	5,703	0,165	1,612	0,306
Endometriose	Endometriose 10	RAC2-Hs01036635_s1	31,855	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 11	PRKCA-Hs00925193_m1	27,678	27,807	27,807	1,987	0,318	0,849	0,982
Endometriose	Endometriose 9	HGF-Hs00300159_m1	28,365	34,961	34,961	9,141	0,866	0,490	0,679
Endometriose	Endometriose 1	ARHGDIA-Hs00366348_g1	26,953	27,024	27,024	1,204	0,902	0,568	0,828
Endometriose	Endometriose 10	WASF2-Hs00819075_gH	32,790	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 2	BAIAP2-Hs00170734_m1	32,362	29,830	29,830	4,070	0,282	1,453	0,268
Endometriose	Endometriose 11	DPP4-Hs00175210_m1	28,497	30,898	30,898	5,078	0,850	1,100	0,475
Endometriose	Endometriose 8	CAPN2-Hs00965097_m1	26,163	26,193	26,193	0,373	0,730	0,723	0,862
Endometriose	Endometriose 8	ITGB1-Hs00559595_m1	24,555	25,337	25,337	-0,484	0,421	0,986	0,862
Endometriose	Endometriose 2	DPP4-Hs00175210_m1	32,954	30,898	30,898	5,078	0,850	1,100	0,475
Endometriose	Endometriose 7	MYH10-Hs00992055_m1	29,176	27,236	27,236	1,416	0,253	0,958	0,702
Endometriose	Endometriose 1	WASF2-Hs00819075_gH	31,320	30,305	30,305	4,485	0,370	1,414	0,302
Endometriose	Endometriose 1	MMP14-Hs01037003_g1	26,083	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 8	PAK4-Hs01100061_m1	29,848	29,384	29,384	3,563	0,406	0,895	0,793
Endometriose	Endometriose 8	EGF-Hs01099999_m1	36,526	35,702	35,702	9,942	0,477	0,596	0,266
Endometriose	Endometriose 4	EGFR-Hs01076078_m1	27,947	29,516	29,516	3,696	0,587	0,897	0,871
Endometriose	Endometriose 7	PRKCA-Hs00925193_m1	29,284	27,807	27,807	1,987	0,318	0,849	0,982
Endometriose	Endometriose 9	TGFB1-Hs00998133_m1	27,394	28,964	28,964	3,144	0,256	1,085	0,674
Endometriose	Endometriose 11	MMP14-Hs01037003_g1	23,994	25,800	25,800	-0,020	0,639	1,052	0,405
Endometriose	Endometriose 10	PTK2-Hs01056457_m1	28,485	27,564	27,564	1,744	0,095	1,337	0,208
Endometriose	Endometriose 2	ITGB3-Hs01001469_m1	28,954	28,014	28,014	2,194	0,421	0,958	0,775

Endometriose	Endometriose 9	ACTN4-Hs00245168_m1	23,379	25,550	25,550	-0,270	0,816	0,740	0,767
Endometriose	Endometriose 9	TIMP2-Hs00234278_m1	22,982	23,872	23,872	-1,948	0,415	1,415	0,222
Endometriose	Endometriose 7	RND3-Hs01003594_m1	25,498	25,840	25,840	0,020	0,258	1,532	0,211
Endometriose	Endometriose 2	CDC42-Hs00918044_g1	28,033	27,685	27,685	1,865	0,638	0,943	0,610
Endometriose	Endometriose 3	VIM-Hs00185584_m1	21,986	22,471	22,471	-3,349	0,165	0,733	0,167
Endometriose	Endometriose 5	CAPN1-Hs00559804_m1	25,662	27,707	27,707	1,887	0,807	0,808	0,546
Endometriose	Endometriose 1	SH3PXD2A-Hs00206037_m1	32,052	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 3	SH3PXD2A-Hs00206037_m1	29,512	30,751	30,751	4,931	0,138	1,143	0,872
Endometriose	Endometriose 10	IGF1R-Hs00609566_m1	30,596	28,660	28,660	2,840	0,440	1,118	0,301
Endometriose	Endometriose 9	PGK1-Hs99999906_m1	24,526	25,379	25,379	-0,441	0,071	1,022	0,816
Endometriose	Endometriose 4	ARHGEF7-Hs00388776_m1	28,771	30,192	30,192	4,372	0,881	0,951	0,393
Endometriose	Endometriose 4	PIK3CA-Hs00907957_m1	30,217	30,421	30,421	4,601	0,288	1,254	0,290
Endometriose	Endometriose 10	ROCK1-Hs01127699_m1	29,733	28,154	28,154	2,334	0,163	1,024	0,770
Endometriose	Endometriose 4	RHOA-Hs00357608_m1	23,026	23,826	23,826	-1,994	0,107	1,005	0,860
Endometriose	Endometriose 5	ILK-Hs01101168_g1	23,967	25,190	25,190	-0,630	0,321	0,811	0,490
Endometriose	Endometriose 10	BCAR1-Hs01547079_m1	29,476	28,788	28,788	2,968	0,820	0,725	0,838
Endometriose	Endometriose 2	RAC1-Hs01902432_s1	31,616	29,704	29,704	3,884	0,429	1,638	0,349
Endometriose	Endometriose 4	RDX-Hs00988414_g1	26,992	27,702	27,702	1,882	0,097	1,050	0,782
Endometriose	Endometriose 3	PAK1-Hs00945621_m1	28,001	28,972	28,972	3,152	0,257	1,415	0,281
Endometriose	Endometriose 4	IGF1-Hs01547656_m1	34,356	34,494	34,494	8,674	0,584	0,678	0,860
Endometriose	Endometriose 4	FAP-Hs00990806_m1	27,088	27,957	27,957	2,137	0,456	1,011	0,783
Endometriose	Endometriose 4	ACTN1-Hs00998100_m1	23,108	24,781	24,781	-1,039	0,791	0,692	0,882
Endometriose	Endometriose 8	RAC2-Hs01036635_s1	31,971	31,146	31,146	5,326	0,343	0,875	0,745
Endometriose	Endometriose 1	MSN-Hs00741306_mH	26,892	25,899	25,899	0,079	0,347	0,966	0,819

Anexo 2 - Aprovação do Comitê de Ética em Pesquisa (CEP)

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PARECER CONSUBSTANCIADO DO CEP

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: AVALIAÇÃO DE GENES RELACIONADOS A MOTILIDADE CELULAR EM MULHERES COM ENDOMETRIOSE PROFUNDA

Pesquisador: PAMELA CRISTINA MASTELLARO DELVAS ZANNI

Área Temática:

Versão: 1

CAAE: 93442218.7.0000.5505

Instituição Proponente: Universidade Federal de São Paulo - UNIFESP/EPM

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 2.795.775

Apresentação do Projeto:

Projeto CEP/UNIFESP n: 0804/2018

A endometriose é uma doença inflamatória comum, benigna, dependente de estrogênio, e trata-se de um transtorno ginecológico crônico. A patologia atinge aproximadamente 10% das mulheres em idade reprodutiva e 35-50% das mulheres apresentam dor pélvica e infertilidade. A origem histológica da endometriose visa explicar a capacidade do tecido endometrial de se desenvolver ectopicamente. No entanto, nenhum consenso foi alcançado no que diz respeito a uma única teoria explicar tal capacidade. A teoria da menstruação retrógrada é a mais antiga e aceita, porém ela não explica como algumas mulheres desenvolvem endometriose e outras não, visto que todas as mulheres apresentam algum grau de fluxo retrógrado. A migração celular desempenha um papel central em uma ampla variedade de fenômenos biológicos e contribui para a progressão da maioria das doenças humanas. No organismo adulto a migração permanece notável sendo essencial para uma resposta imune adequada, reparo de feridas e homeostase tecidual, entretanto em várias patologias apresenta-se de forma anormal. No entanto, pouco se sabe sobre o papel dos mecanismos de motilidade celular para o estabelecimento e progressão dos implantes de endometriose. Diante disso, o presente projeto de pesquisa tem por objetivo avaliar, por meio de RT-PCR a expressão de genes relacionados aos processos de motilidade celular em células primárias derivadas do endométrio de mulheres com endometriose profunda e mulheres sem a doença.

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-HIPÓTESE: Pouco se sabe sobre o papel dos mecanismos de motilidade celular para o estabelecimento e progressão dos implantes de endometriose. Recentemente, descreveu-se que as células endometriais são altamente migradoras e invasivas no exterior da cavidade uterina, durante a progressão da endometriose, porém ainda não está claro o que causa e o que induz essas células a migrarem, então, pretendemos com esse trabalho analisar os possíveis genes envolvidos no processo de motilidade celular em células primárias derivadas do endométrio de mulheres com endometriose profunda comparando com os mulheres sem a doença.

Objetivo da Pesquisa:

-OBJETIVO PRIMÁRIO: Avaliar, por meio de RT-PCR a expressão de genes relacionados aos processos de motilidade celular em células primárias derivadas do endométrio de mulheres com endometriose profunda e mulheres sem a doença.

Avaliação dos Riscos e Benefícios:

Em relação aos riscos e benefícios, o pesquisador declara:

-RISCOS: Ao consentir em participar do presente estudo o sujeito não estará exposto a riscos.

-BENEFÍCIOS: Com esse trabalho poderemos analisar os possíveis genes envolvidos no processo de motilidade celular em células primárias derivadas do endométrio de mulheres com endometriose profunda, e colaborar para os avanços no diagnostico e tratamento da doença.

Comentários e Considerações sobre a Pesquisa:

Trata-se de projeto de doutorado de PAMELA CRISTINA MASTELLARO DELVAS ZANNI. Orientador: Prof. Dr. Manoel João Batista Castello Girão. Projeto vinculado ao Departamento de Ginecologia , Campus São Paulo, Escola Paulista de Medicina, UNIFESP.

TIPO DE ESTUDO: observacional. Este projeto de doutorado intitulado “Avaliação de genes relacionados a motilidade celular em mulheres com endometriose”, é uma extensão do projeto do Dr Gil Kamergorodsky, previamente aprovado pelo CEP, número 1920/11. Diante disto, o material que será utilizado em minha pesquisa encontra-se armazenado e a pesquisa não envolvera novas participantes e coletas. Anexo a carta de autorização e ciência do Dr Gil Kamergorodsky.

LOCAL: Departamento de Ginecologia da Faculdade de Medicina da Universidade Federal de São Paulo (EPM-UNIFESP)

PARTICIPANTES: Serão utilizadas células de endométrio de 17 mulheres entre 29 e 35 anos que

foram submetidas à cirurgia para endometriose estágio IV e o grupo controle composto por mulheres submetidas à laparoscopia por laqueadura tubária na Unidade de Dor Pélvica e Endometriose do Departamento de Ginecologia da Faculdade de Medicina da Universidade Federal de São Paulo (EPM-UNIFESP) previamente coletadas e armazenadas.
PROCEDIMENTOS:
- O tecido endometrial sera cultivado e o RNA extraído e realizaremos a transcrição reversa.
-Após essas etapas os ensaios de RT2 qPCR serão realizados para avaliar a expressão genica.
-Pretende-se com esse trabalho analisar os possíveis genes envolvidos no processo de motilidade celular em células primárias derivadas do endométrio de mulheres com endometriose profunda. Os resultados obtidos com este estudo serão disseminados através de vários métodos científicos, a saber, participação em eventos científicos e publicações em revistas indexadas.
(mais informações, ver projeto detalhado).

Considerações sobre os Termos de apresentação obrigatória:
1- Foram apresentados os principais documentos: folha de rosto; projeto completo; cópia do cadastro CEP/UNIFESP, orçamento financeiro e cronograma apresentados adequadamente.
2- Propõe dispensa do TCLE. Justificativa: O projeto de doutorado intitulado “Avaliação de genes relacionados a motilidade celular em mulheres com endometriose profunda”, é uma continuação do projeto do Dr Gil Kamergorodsky, previamente aprovado pelo CEP, número 1920/11. Diante disto, o Termo de Consentimento Livre e Esclarecido anexado é o mesmo pertencente ao estudomencionado acima. Nenhum procedimento adicional será realizado com essas pacientes e não será coletado novas amostras. As pacientes envolvidas na pesquisa não se encontram atualmente em acompanhamento, portanto não será possível a aplicação de um novo Termo de Consentimento Livre e Esclarecido.
3- outros documentos importantes anexados na Plataforma Brasil:
a)- autorização do pesquisador responsável pelo projeto do qual serão utilizados o material estocado. (Pasta: Declaração de Pesquisadores- Submissão 1; Documento: SKMBT_C28018070613550.pdf)
b)-declaração da pesquisadora do presente projeto de que seu projeto é continuação do projeto aprovado pelo CEP/UNIFESP, 1920/2011 (Pasta: outros- Submissão 1; Documento: SKMBT_C28018070613553.pdf)
c)- declaração da pesquisadora do presente projeto de que o TCLE será o mesmo do proejto anterior (Pasta: outros- Submissão 1; Documento: SKMBT_C28018070613551.pdf)

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c)- carta de aprovação CEP/UNIFESP, 1920/2011 (Pasta: outros- Submissão 1; Documento: SKMBT_C28018070613555.pdf)
c)- modelo do TCLE que foi aplicado no projeto anterior (Pasta: TCLE / Termos de Assentimento / Justificativa de Ausência- Submissão 1; Documento: TCLE.pdf)

Recomendações:
Nada consta

Conclusões ou Pendências e Lista de Inadequações:
Sem inadequações

Considerações Finais a critério do CEP:
O Comitê de Ética em Pesquisa da UNIFESP-HSP/HU de acordo com as atribuições definidas na Resolução CNS 466/2012 e na Norma Operacional Nº 001/2013 do CNS, e após aanálise do protocolo em tela manifesta-se pela APROVAÇÃO do projeto de pesquisaproposto. Solicitamos que sejam encaminhados ao CEP:
1 Relatórios semestrais, a partir da data de aprovação;
2 Comunicar toda e qualquer alteração do Projeto e Termo de Consentimento Livre e Esclarecido. Nestas circunstâncias as alterações solicitadassó podem ser implementadas após a aprovação do Comitê de Ética em Pesquisa.
3 Comunicar imediatamente ao Comitê qualquer Evento Adverso Grave ocorrido durante o desenvolvimento do estudo.
4 Para projetos que utilizam amostras biológicas que serão armazenadas, cadastrar o biorrepositório ou procurar o BIOBANCO para início do processamento.
5 Os dados individuais de todas as etapas da pesquisa devem ser mantidos em local seguro por 5 anos,após conclusão da pesquisa, para possível auditoria dos órgãos competentes.
6 Este projeto está cadastrado no CEP-UNIFESP sob o número 0804/2018.

Este parecer foi elaborado baseado nos documentos abaixo relacionados:

Tipo Documento	Arquivo	Postagem	Autor	Situação
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_1162335.pdf	10/07/2018 06:39:37		Aceito
Projeto Detalhado	PROJETOPAMELACEP.pdf	10/07/2018	PAMELA CRISTINA	Aceito

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/ Brochura Investigador	PROJETOPAMELACEP.pdf	06:37:49	MASTELLARO DELVAS ZANNI	Aceito
Outros	SKMBT_C28018070613555.pdf	10/07/2018 06:27:46	PAMELA CRISTINA MASTELLARO DELVAS ZANNI	Aceito
Outros	SKMBT_C28018070613553.pdf	10/07/2018 06:26:03	PAMELA CRISTINA MASTELLARO DELVAS ZANNI	Aceito
Outros	SKMBT_C28018070613552.pdf	10/07/2018 06:25:00	PAMELA CRISTINA MASTELLARO DELVAS ZANNI	Aceito
Outros	SKMBT_C28018070613551.pdf	10/07/2018 06:24:01	PAMELA CRISTINA MASTELLARO DELVAS ZANNI	Aceito
Declaração de Pesquisadores	SKMBT_C28018070613550.pdf	10/07/2018 06:22:18	PAMELA CRISTINA MASTELLARO DELVAS ZANNI	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE.pdf	10/07/2018 06:20:47	PAMELA CRISTINA MASTELLARO DELVAS ZANNI	Aceito
Folha de Rosto	SKMBT_C28018070613554.pdf	10/07/2018 06:17:32	PAMELA CRISTINA MASTELLARO DELVAS ZANNI	Aceito

Situação do Parecer:
Aprovado

Necessita Apreciação da CONEP:
Não

SAO PAULO, 02 de Agosto de 2018

Assinado por:
Miguel Roberto Jorge
(Coordenador)

Endereço: Rua Francisco de Castro, 55
Bairro: VILA CLEMENTINO **CEP:** 04.020-050
UF: SP **Município:** SAO PAULO
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Anexo 3 - Termo de Consentimento Livre e Esclarecido (TCLE)

PESQUISA: ANÁLISE FUNCIONAL DA ATIVAÇÃO E DA EXPRESSÃO DO RECEPTOR DA PROGESTERONA EM CULTURA PRIMÁRIA DE CÉLULAS ENDOMETRIAIS DE PACIENTES PORTADORAS DE ENDOMETRIOSE PROFUNDA INTESTINAL

As informações contidas nestas folha, fornecidas pelo Dr. Gil Kamergorodsky têm por objetivo firmar acordo escrito com o(a) voluntária(o) para participação da pesquisa acima referida, autorizando sua participação com pleno conhecimento da natureza dos procedimentos a que ela(e) será submetida(o).

1) Natureza da pesquisa: Esta pesquisa tem como finalidades: avaliar a expressão e função dos receptores de progesterona em mulheres com endometriose superficial e profunda.

2) Garantia de manutenção do sigilo e da privacidade: Todas as informações obtidas a seu respeito neste estudo, serão analisadas em conjunto com as de outros voluntários, não sendo divulgado a sua identificação ou de outros pacientes em nenhum momento.

3) Envolvimento na pesquisa: Você tem liberdade de se recusar a participar e ainda de se recusar a continuar participando em qualquer fase da pesquisa, sem qualquer prejuízo para você. Sempre que quiser, poderá pedir mais informações sobre a pesquisa através do telefone do coordenador do projeto e, se necessário, por meio do telefone do Comitê de Ética em Pesquisa.

4) Uso de dados e material coletado: Você tem a garantia de que todos os dados obtidos a seu respeito, assim como qualquer material coletado, só serão utilizados neste estudo.

5) Danos pessoais: Se ocorrer qualquer problema ou dano pessoal comprovadamente decorrente dos procedimentos ou tratamentos aos quais você será submetido, lhe será garantido o direito a tratamento gratuito na Instituição e terá direito a indenização determinada por lei.

6) Despesas e compensações: Você não receberá nenhuma compensação financeira relacionada à sua participação neste estudo. Da mesma forma, você não terá nenhuma despesa pessoal em qualquer fase do estudo, incluindo exames e consultas.

7) Direito de ser mantido atualizado sobre os resultados: A qualquer momento, se for de seu interesse, você poderá ter acesso a todas as informações obtidas a seu respeito neste estudo, ou a respeito dos resultados gerais do estudo.

8) Direito a ter acesso aos resultados finais da pesquisa: Quando o estudo for finalizado, você será informada sobre os principais resultados e conclusões obtidas no estudo.

9) Garantia de acesso à informação: Em qualquer etapa do estudo, você terá acesso aos profissionais responsáveis pela pesquisa para esclarecimento de eventuais dúvidas. O principal investigador é o Dr. Gil Kamergorodsky, que pode ser encontrado no endereço (institucional) Rua Loefgren,1570. Se você tiver alguma consideração ou dúvida sobre a ética da pesquisa, entre em contato com o Comitê de Ética em Pesquisa (CEP) da Unifesp – Rua Botucatu, 572 – 1º andar – cj 14, 5571-1062, FAX: 5539-7162 – E-mail: cepunifesp@unifesp.br.

10) Duas vias: Esse termo foi elaborado em duas vias devidamente assinadas, sendo que uma ficará com você e a outra conosco.

11) Liberdade de recusar ou retirar o consentimento: Você tem a liberdade de retirar seu consentimento a qualquer momento e deixar de participar do estudo sem penalizantes.

Após estes esclarecimentos, solicitamos o seu consentimento de forma livre para permitir sua participação nesta pesquisa. Portanto, preencha os itens que seguem:

*"Acredito ter sido suficientemente informado a respeito das informações que li ou que foram lidas para mim, descrevendo o estudo "*ANÁLISE FUNCIONAL DA ATIVAÇÃO E DA EXPRESSÃO DO RECEPTOR DA PROGESTERONA, EM CULTURA PRIMÁRIA DE CÉLULAS ENDOMETRIAIS DE PACIENTES PORTADORAS DE ENDOMETRIOSE PROFUNDA INTESTINAL*". Eu discuti com o Dr. Gil Kamergorodsky sobre a minha decisão em participar nesse estudo. Ficaram claros para mim quais são os propósitos do estudo, os procedimentos a serem realizados, seus desconfortos e riscos, as garantias de confidencialidade e de esclarecimentos permanentes. Ficou claro também que minha participação é isenta de despesas e que tenho garantia do acesso a tratamento hospitalar quando necessário. Concordo voluntariamente em participar deste estudo e poderei retirar o meu consentimento a qualquer momento, antes ou durante o mesmo, sem penalidades ou prejuízo ou perda de qualquer benefício que eu possa ter adquirido, ou no meu atendimento neste Serviço.*

Data: ____/____/____

_____ _____

Nome do pesquisador principal *assinatura*

"Declaro que obtive de forma apropriada e voluntária, o Consentimento Livre e Esclarecido deste paciente (ou representante legal) para a participação neste

estudo. Declaro ainda que me comprometo a cumprir todos os termos aqui descritos."

Data: ____/____/____

_____ _____

Nome do pesquisador principal *assinatura*

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